15 CENTS A COPY

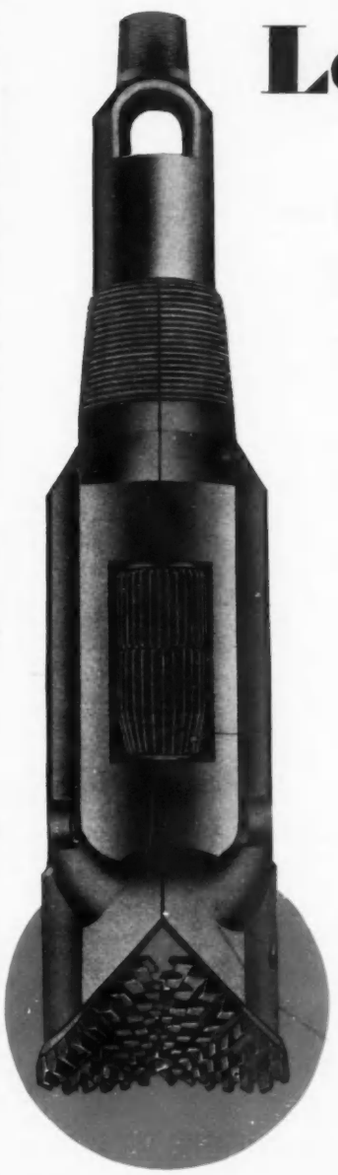
THE OIL WEEKLY

OIL & GAS ENGINEERING

News Statistics

Good Years . . . Lean Years

TRADE MARK



HUGHES TOOL COMPANY

STANDARDS OF MANUFACTURE ARE NEVER LOWERED

If the trademark above could talk it would say:

HUGHES

ROCK BITS
CONES
CORE BITS
TOOL JOINTS
VALVES & FITTINGS
REAMERS
and other specialized Rotary Drilling Tools

"I stand for that which is fine in specialized oil field tools. I represent the results of more than two decades of study, development, research and experience in laboratory, shop and field. Throughout the years to come I shall continue to represent that which is best in oil field drilling tools. I never appear on any tool until laboratory and field tests have proven it the best of its kind.

"Through the years, fat years and lean, my high standards have not been lowered. I have helped to save the oil industry many millions of dollars in the ceaseless quest for oil. I represent increased efficiency and effectiveness of Rotary Drilling Rigs; safety and dependability in well control equipment."

"Hughes Tools—Sold by Supply Stores Everywhere"

HUGHES TOOL COMPANY

Service Plants:
Los Angeles, Calif.
Oklahoma City, Okla.
Midland, Texas

Main Office and Plant:
HOUSTON,
TEXAS

Export Office:
Woolworth Bldg.,
New York City

March 25, 1932

ADVERTISERS' INDEX, LAST PAGE

EDITORIAL INDEX, PAGE 5

"Look for the Amber Belt with Black Edges" say Oil Field Users

"Look for the Thermoid Square Edge Oil Country Transmission Belt... and when you've found it you've found *greater flexibility* and *new freedom from slippage*... without the slightest loss of that durability for which *all* Thermoid belts are famous."

THERMOID RUBBER COMPANY

Factories and Main Offices · TRENTON, NEW JERSEY

Thermoid

SQUARE EDGE OIL COUNTRY TRANSMISSION BELTING

The distributors listed below will give you complete details regarding this new and popular Thermoid Oil Country Belt. Get in touch with one of them now.

Thermoid

BELTING

BRAKE LINING and HOSE

DISTRIBUTORS SERVE INDUSTRY ECONOMICALLY

BUY IT FROM THE DISTRIBUTOR

Buy through the distributor

HINDERLITER TOOL COMPANY
Tulsa, Okla.

GORDON & COMPANY
Los Angeles, Calif.

PETROLEUM EQUIPMENT CO.
Los Angeles, Calif.

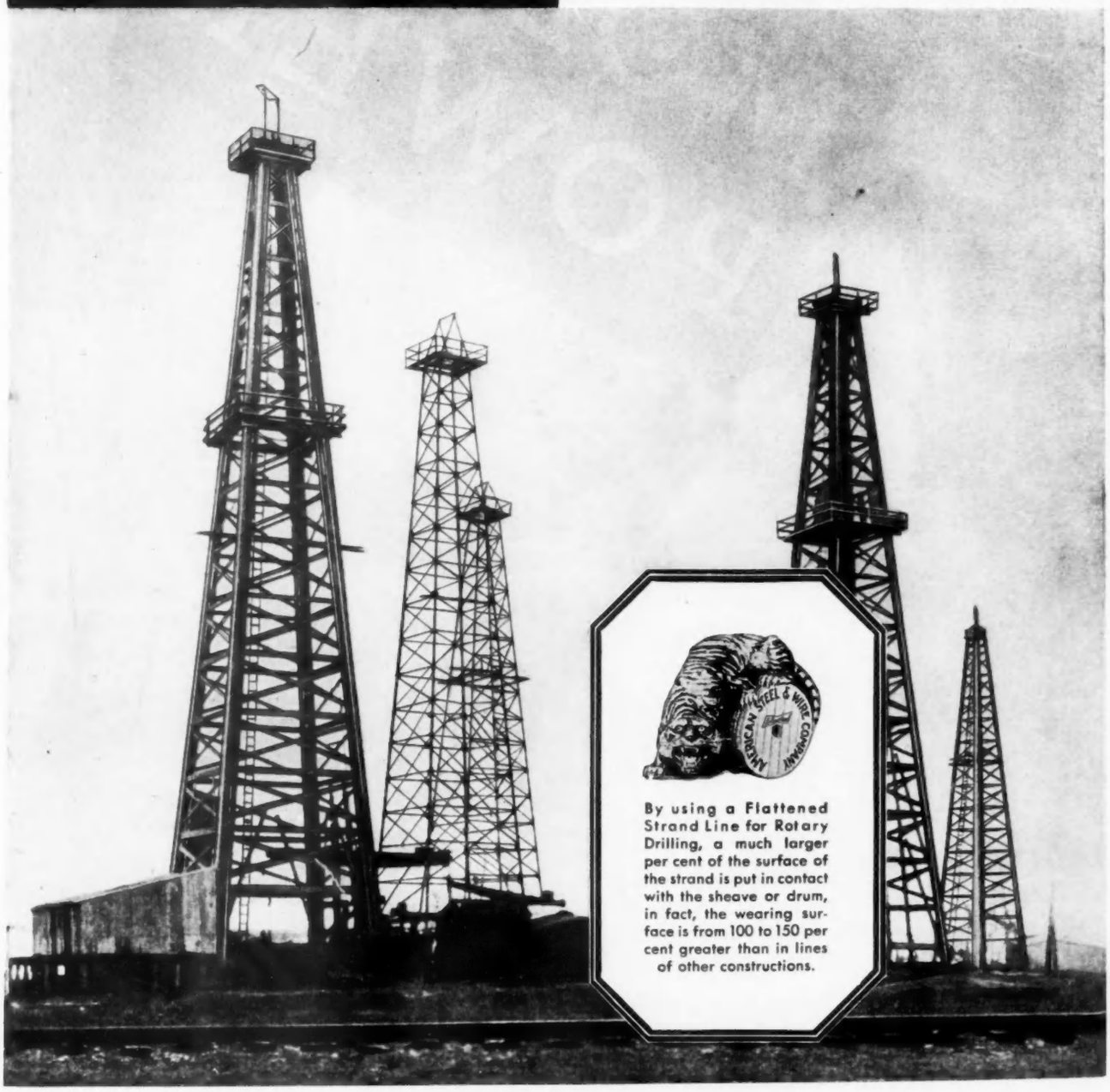
VICTOR BELTING & RUBBER COMPANY
Los Angeles, Calif.

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $1.00 per year; 15 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.

AMERICAN STEEL & WIRE COMPANY WIRE LINES

Where Dependability is Vital

In the oil fields—where uninterrupted service is vital—the selection of wire lines deserves more than ordinary care. Because of their proved dependability and greater economy, most operators specify American Steel & Wire Company Wire Lines. It will pay you to know why in detail. Our engineers, in the oil country, will gladly assist you in solving your wire line problems.


AMERICAN STEEL & WIRE COMPANY
By using a Flattened Strand Line for Rotary Drilling, a much larger per cent of the surface of the strand is put in contact with the sheave or drum, in fact, the wearing surface is from 100 to 150 per cent greater than in lines of other constructions.

1831 MORE THAN 100 YEARS of PROGRESS in WIRE MAKING 1932

AMERICAN STEEL & WIRE COMPANY

208 South LaSalle Street, Chicago — SUBSIDIARY OF UNITED STATES STEEL CORPORATION — And All Principal Cities

Pacific Coast Distributors. Columbia Steel Company, Russ Building, San Francisco — *Export Distributors:* United States Steel Products Company, New York

ON THE pipe line, at the freight unloading point, in the oil field, around the refinery—there's work for "Caterpillar" Tractors wherever there are loads to be lifted or lowered, pushed or pulled. Mobility—*real* mobility—with sure-gripping tracks to conquer rough ground—mud—snow—sand. And power to conquer steep grades. Mobility that has earned for the "Caterpillar" track-type Tractor the name of "cross-country locomotive."

Caterpillar Tractor Co., Peoria, Illinois, U.S.A.
Track-type Tractors Combines Road Machinery
(There's a "Caterpillar" Dealer Near You)

Prices—f. o. b. Peoria, Illinois

FIFTEEN	$1100	THIRTY-FIVE	$2400
TWENTY	$1450	FIFTY	$3675
TWENTY-FIVE	$1900	SIXTY-FIVE	$4350
DIESEL	$6500		

CATERPILLAR

REG. U. S. PAT. OFF.

TRACTOR

THE OIL WEEKLY

March 25, 1932
Vol. 65, No. 2

COPYRIGHT, 1932

Published Weekly by
THE GULF PUBLISHING COMPANY
HOUSTON, TEXAS

S. W. ROBINSON
Editor

CONTENTS

Special Features

House Fight on Sales Tax Revives Federal Gasoline Tax 9
By Roy E. Leigh

World Demand Exceeds Current Oil Production 10
By Roy E. Leigh

End of Oil Depression Seen in Price Upturn 12
By H. J. Struth

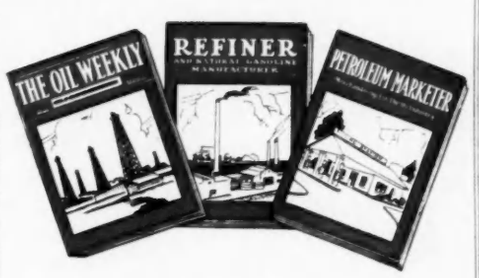
Natural Gas Got First Chance in New York State 15

Relation of Earth Temperature to Geological Structure 21
By John A. McCutchin

The Diesel Engine Design for Oil Production Work 29
By Hollis P. Porter

Regular Departments

Advertisers' Index 74
The Changing Panorama 7
Markets-Production-Crude Prices 35
United States Production Estimates 38
Crude Oil Price Quotations 41
Personal Mention 45
Completions for Past Week in All U. S. Fields 59
Permits for New Wells 61
Wildcat Drilling Reports from All Important Areas 63
New Mexico and Rocky Mountain Area 50
News from California Fields 48
Oklahoma-Kansas Field Notes 46
East Central Texas Fields 52
South Texas Field Developments 55
Gulf Coast Field Developments 56
Louisiana-Arkansas Field Notes 57
New Equipment, Catalogs, Bulletins, Books 69
News from the Equipment Makers 72
Squeaks from the Bull Wheel 73



SPECIALIZED OIL JOURNALS

Published by

THE GULF PUBLISHING COMPANY

R. L. DUDLEY, *President*
A. L. BURNS, *Gen'l Manager*
S. W. ROBINSON, *Editorial Director*
J. KENT RIDLEY, *Managing Editor*

NEW YORK: Room 324, 250 Park Avenue, Dick Swinsky, Manager.

PITTSBURGH: 1407 Park Building, W. W. Pigue, Manager.

CHICAGO: Room 810, 624 Michigan Avenue, O. R. Waller, Manager.

LOS ANGELES: 416-417 Haas Building, W. E. Green, Manager.

TULSA: 913-916 Hunt Building, J. F. Carter, Jr., Manager.

FORT WORTH: 203 W. T. Waggoner Building, H. H. King, Manager.

Issued Friday of each week. Single copies 15 cents. Subscription price: Domestic $1.00 a year, Foreign $1.00 a year. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879. Subscription restricted to those engaged in the producing and pipe line branches of the oil business or the manufacture and distribution of oil field supplies. Advertising rates on application.

Selected Wire

Makes Select Wire Line

The steel wire of the whole world is ours to choose from, but we have yet to find the equal of the material we have stuck to for over 40 years in making Yellow Strand Lines—wire drawn to our specifications from genuine Swedish stock. Our searching laboratory tests prove its superiority over and over again.

From these tested wires we *select* those that will best produce a balanced drilling line—balanced as to elasticity, flexibility, strength and toughness.

"Flex-Set" Preformed Yellow Strand Rotary Line

is given additional valuable qualities. Preforming eliminates internal stress, making the line easier to handle and install. It spools true, resists drum crushing, runs smoothly over sheaves. Does not whip, buckle, rotate or cause twisting of blocks and elevators. Summed up, "Flex-Set" Preformed Yellow Strand Rotary Line *works longer;* keeps costs way down. Try it!

Get Catalog 40.

FACTORIES

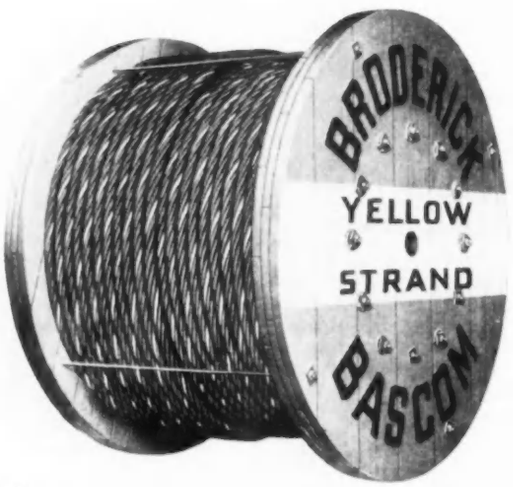
St. Louis — Seattle

BRANCHES and WAREHOUSES

Los Angeles — Seattle
San Francisco — New York
Houston — Portland

DISTRIBUTORS

In all oil fields.



BRODERICK & BASCOM ROPE COMPANY
St. Louis, Mo.

Yellow Strand
Rotary Drilling Lines

Q-2R1

©CIB 149217

VOLUME 65, No. 2 MARCH 25, 1932

THE OIL WEEKLY

SPECIALIZED TO OIL AND GAS PRODUCTION
AND PIPE LINE DIVISIONS

ENGINEERING • NEWS • STATISTICS

The Changing Panorama

Time was when the anti-knock qualities of straight run gasoline from light California crude was something for drivers of transcontinental test cars to write home about. The state had an important production of heavy oil, much of which has been carried on stock reports as "unrefinable." But current reports are that the demand for heavy crude is looking up a little in California with a consequent slackening of demand for the lighter crudes. At last California has found it necessary to crack gasoline in appreciable quantities to keep its gasoline supply to octane requirements which have been developed by the automotive engineers of the east. Incidentally, rumors are that when and if the oil industry gets all of its product cracked and blended to current specifications for automotive fuels, the automobile industry will have developed carburetors which will make the cars independent of all the familiar specifications, requiring only a liquid containing molecules of hydrogen and carbon.

Market Stays Hopeful

Development in market circles during the week continued encouraging. Production increase of 11,000 barrels was no indication of loosening of control of production, and a slight increase in gasoline stocks was no more than can be accounted for by adverse weather temporarily holding up shipping instructions. Tank wagon prices in the East have been given a boost in spots, evidence of approach of the season of better demand. With supply of crude being held back to practically demand and refiners tending to gauge their operations by consumption of their products, observers of the situation are hopeful that the industry is getting ready to add some of the strength of its statistical position to its bank balance. Page 35.

Still See the Big Ones

Despite demonstrations made by Wirt Franklin and other independents before the national congress, members of that body still cannot see the oil industry for the big units in it. Recent debate in the house on the proposed oil tariff has switched to viewing with alarm the possibility that the "Rockefellers and the Mellons" will profit from this protection. The general manu-

IN IRAQ

Iraq Petroleum Company covers cooling towers with pagado-like roofs to minimize the loss of water by evaporation. The men in the picture are C. A. Moon, field superintendent, and Harry Winger, drilling foreman.

facturers excise or "sales tax" is due for failure because it will tax the poor's necessities, and there arises again the possibility that the one-cent tax on gasoline by the federal government will be revived. Universal use of motor vehicles for transportation of persons and of commodities eventually will rank gasoline as a necessity, perhaps. On present valuations, the one cent tax would be a levy of over 30 per cent on the manufactured cost of gasoline, but in the minds of a congressman that would be less burden than one and a quarter per cent on a pair of shoes.

Wildcat Paying Off

Opportunities for the wildcatter continue despite economic conditions and all arguments to the contrary. Sale of the "potential" of the late strike in Montgomery County, Texas, for reported cash payments to total $500,000 and $3,500,000 out of production, together with a royalty interest retained by the seller, tends to indicate that it is still profitable to drill a wildcat—if it strikes oil—whether there is over production or not. It is to be remembered that the big winner in East Texas has retired. Page 40.

Texas Pipe Line Law Gets Test

A decision that may tend to undermine some precedents on the "fish or fowl" status of petroleum and line up with the ideas of the "new conception" will follow the pipe line hearing at Houston. Certain gas carriers attack the Texas law requiring ratable purchase of gas, and the state argues that enforcement of the law prevents drainage from neighboring tracts. Heretofore the courts have held that a man's land is his and what he gets out of it is also his, without obligation to conserve what is his neighbor's. Another point for decision that a jurist mentions is forcing one to buy what he does not want, does not need and may not be able to pay for. Page 42.

Advancing

THE ISSUE DATE OF

The OIL WEEKLY

FROM

Friday to Monday

STARTING next week the issue and delivery date of The OIL WEEKLY will be advanced from Friday to Monday. There are many advantages to this change, important among which are:

The OIL WEEKLY will reach the reader's desk Monday, thus making it possible to present the news and developments of the calendar week rather than a split week.

Daily Average Production Estimates, the important gauge of field activities and the barometer of the industry, will be available to readers at the start of the week for the preceding seven days instead of being released Wednesday or later as in the past. Important completions, etc., will be recorded from four to five days in advance of other sources.

Proceedings of Important Engineering Meetings—usually held after Tuesday of each week—will be covered in full in the issue reaching the reader the following Monday or from four to six days earlier than is possible with a mid-week publication date.

The full utilization of the non-business week-end instead of the busy mid-week for mail train distribution assures the reader regular and uninterrupted receipt of his paper.

●

Co-incident with the change in issue date will be some other improvements that will increase reader interest and add materially to the editorial effectiveness of THE OIL WEEKLY.

Long View Of Potentials

Texas admittedly at this time is the big item in the oil world's potential. Taken at long range, the two billion barrel potential of East Texas and the rest of Texas adding enough to make up three and a half billion barrels of "known" reserves, the state has only 10 years to last at its current rate of recovery. The figures quoted are the estimates of Dr. Donald C. Barton, at least as good at guessing as some others. Anyway his figures tend to indicate that this potential which the economists permit to offset the bettered position of the industry as regards above-ground stocks, will be amortized eventually, despite disinclination to discount it at this time. Page 44.

World Supply and World Demand

World supply and world demand for petroleum are again approximately in balance. It may be that the tide has turned, but the rate at which the world's stocks of oil stored above ground are being reduced is not sufficient to give encouragement in the face of uncertainty in East Texas, dumping from Roumania, and price-cutting by Soviet marketing agencies. Page 10

House Fight on Sales Tax Revives Federal Gasoline Tax

By ROY E. LEIGH
Associate Editor

WASHINGTON.—The Seventy-Second Congress has heard from home in no uncertain terms on the general subject of taxation and the membership is greatly perturbed by the fear that an aroused electorate may jeopardize appropriations prerogative and patronage.

Whereas it appeared last week that the enactment of the oil tariff was assured, the revolt in the house has upset the basis of that assurance and has brought about a revival of hope and strategy on the part of its opponents. Many southwestern congressmen have abandoned or neglected the support of the tariff on foreign oils in order to devote their energy to the defeat of the general sales tax. Opponents of the levy on oil imports who appeared virtually to have given up the fight when the tariff was accepted by Representative Allen T. Treadway of Massachusetts and other East Coast congressmen and party leaders on both sides have reorganized under the leadership of Representative McCormack, democrat, of Massachusetts who will offer an amendment to strike the tariff item from the bill.

Representative Charles R. Crisp of Georgia, acting chairman of the committee which sponsored the revenue bill and who heretofore has supported each and all of its provisions, has wished them success in their efforts.

Crisp stated Monday that it may be necessary to revive the proposed excise on gasoline in order to replace revenues lost by exemptions already granted.

The pendulum of congressional sentiment seemed to make two complete swings last week in regard to the Revenue Bill of 1932, which contains measures for the taxation of lubricating oils and imported oils of all grades, crude and refined. Opposition to the oil items seemed almost to have collapsed, insofar as the house is concerned; but a great battle was raging over the sales tax feature of the bill when congress adjourned for the week-end.

The outcome of this sales tax debate is of particular interest to the oil industry, as the fate of the tariff on foreign oils seems to be linked inseparably with that of the sales tax project. Not only that, but if the sales tax fails of enactment the tax gatherers, in casting about for substitute sources of revenue, may decide to resurrect a proposal for the imposition of a federal excise of one cent per gallon on gasoline, which was considered and discarded by the committee on ways and means when drafting the bill now before the house.

Charles R. Crisp, acting chairman of the ways and means committee, notified house insurgents on Tuesday that the defeat of the sales tax will also cause the tariff on imported oils to be stricken from the bill. He said that if the sales tax is rejected by the house, the committee on ways and means will reopen the entire subject and seek other sources of revenue with which to balance the budget. Such other sources undoubtedly would include an excise on gasoline.

The sales tax feature found few supporters, when first introduced in committee; and likewise in the house. As debate continued, however, it won support in the committee and was accepted by party leaders on both sides, in that body and also in the house. It appeared to gain favor in the early stages of debate on the floor; and party steersmen, recalling the favorable shift of opinion which occurred in committee, decided to allow general debate to continue longer than is customary and longer than had been planned, in hope that its course in the house might parallel that which it followed in committee.

Debated Too Long

It appears, however, that debate was allowed to continue about one day too long, for the success of the sales tax. Members who might have given it their vote, as a measure of necessity in emergency, were allowed to talk so much to the galleries, and for the Record, that they began to take themselves seriously, so seriously indeed that it was possible on Wednesday to organize blocs in opposition to the tax program on which party leaders on both sides had agreed. The revolt in the democratic ranks, the first since John N. Garner was elevated to the speaker's chair, was led by Representative Robert L. Doughton of North Carolina, the only member of the ways and means committee who stands in opposition to the bill. Insurgent republicans

(Continued on page 14)

Mexico City.—Objection to the excise tax on oil imports into the United States has been voiced by Confederation of Industrial Chambers. Appeal was made to the secretary of commerce and labor. The contention is that enactment of the bill now before the congress of the United States would make exportations to that country unprofitable.

There is a possibility that the Mexican government will take the matter up through diplomatic channels with the Washington government.

World Demand Exceeds

Draft On Above Ground Excess of Demand Approaches

By ROY E. LEIGH
Associate Editor

WHAT is the total of the world's requirement for petroleum and its derivatives? How does this total of demand compare with the total of actual production?

E. B. Swanson, chief petroleum economist, of the United States Bureau of Mines, reports under the latter heading that world production totaled 1,370,299,000 barrels during the year 1931. Figures compiled by THE OIL WEEKLY from basic statistics supplied by Dr. John W. Frey, chief of the Petroleum Section, Minerals Division, Bureau of Foreign and Domestic Commerce, indicate that demand ranged between 1,413,556,000 and 1,417,044,000 barrels during the same period.

It is to be assumed that Mr. Kessler's Group,* and other great international organizations, are in possession of figures indicating the world's consumption of petroleum, year by year; and that such figures, undoubtedly, are more reliable than those resulting from the initial effort of an outside investigator. It also may be assumed that Mr. Kessler had such figures before him when he drafted his plan for world curtailment; and that any favorable showing which may have been reflected by 1931 statistics was outweighed by his expectation of declines in consumption during 1932.

Such must have been the case, since it appears that supply and demand, the world over, were fairly well in balance during 1931.

Figures representative of world demand during the year just closed were computed by two different methods, and the results were found to conform within satisfactory limits.

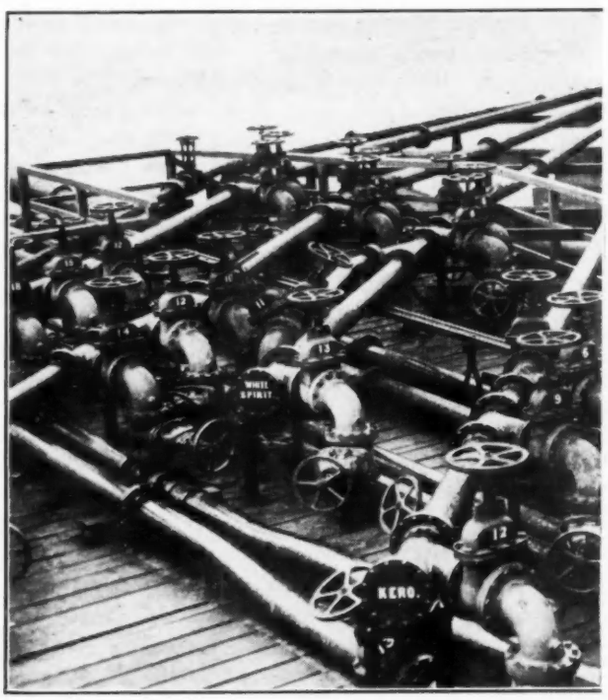
It appears that world consumption exceeded world production by approximately 40¼ to 46¾ million barrels during 1931, and that world stocks of petroleum were depleted to the same extent. It is definitely known[1] that a draft of more than 44 million barrels was made during 1931 on stocks of raw and refined products stored above ground in the United States. Venezuelan stocks also were depleted by approximately 25 per cent. It is probable that, if full details were known regarding increases of stocks in Roumania and counterbalancing decreases elsewhere, these several totals could be reconciled even more closely. Approximately, it may be assumed that changes in stocks outside the United States and Venezuela, whose statistics are known, approximately offset each other; that probable increases in Roumania and Russia may have been equaled by decreases elsewhere. At any rate, the net change in total stocks held outside the United States and Venezuela would not seem to affect this calculation materially.

By adding the amounts drawn from storage, insofar as such figures are known[1] total of world production, a world demand of 1,417,044,000 barrels is established for the year 1931, as follows:

		Barrels
World Production, 1931.....		1,370,299,000
Drafts on Stocks[2]		
United States	44,245,000	
Venezuela[3]	2,500,000	46,745,000
Indicated Demand		1,417,044,000

[2] All oil, crude and refined.
[3] Estimated. See chart by Fred Kay, of Pan American Petroleum and Transport Company, in paper read at recent annual meeting of American Institute of Mining and Metallurgical Engineers, New York.

This figure compares closely enough with a total indicated demand of 1,413,556,000 barrels computed independently and by another method. Base figures are available in the Bureau of Foreign and Domestic Commerce, at Washington, from which it is possible to compute or estimate the demand for



Land end of the oil dock and Saltend, Hull, England, where tanks through the manifold

*J. B. Aug. Kessler, managing director, Royal Dutch Company, proposed a revised plan of world oil control, published in the March 11, 1932, issue of THE OIL WEEKLY.
[1] From Bureau of Mines statistics.

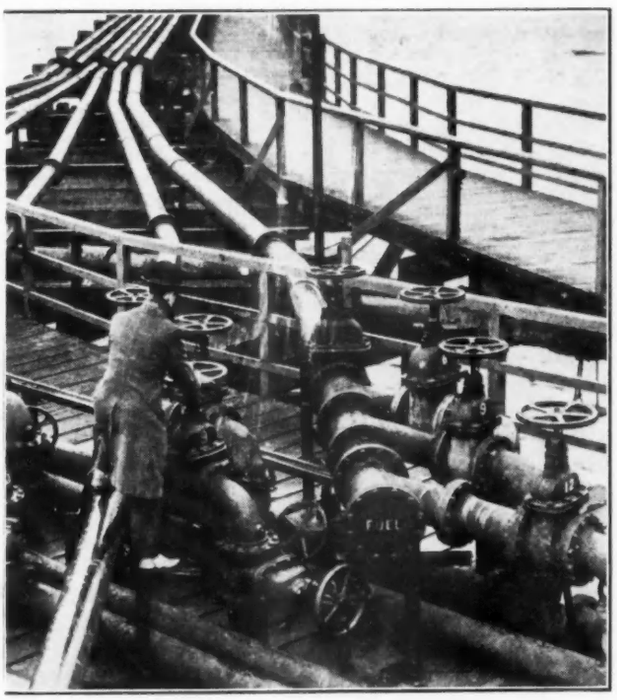
Current Oil Production

Stocks in 1931 Indicates and Shows Situation Balance

petroleum in every political and geographical subdivision of the world. This latter total is made up of actual consumption figures and/or estimates of consumption for every country. Details which went into it may be summarized as follows:

	Indicated Consumption
North America	936,798,000
Central America	21,135,143
South America	49,540,418
West Indies	16,471,369
Europe	286,486,121
Africa	15,350,594
Asia, Asia Minor, and Islands of the Pacific	88,274,346
Total Indicated Demand	1,413,555,991

Why, then, do low prices continue, despite such substantial demands?



much of the oil imported for the British is diverted to proper shown in the foreground

For the answer to this question, recourse may be had to Dr. Jos. E. Pogue's theory of underground stocks or known potentials as affecting the world market almost as strongly as oil above ground. Statistical improvements are largely nullified by the general knowledge that production could be increased abruptly at so many different points in the United States, South America, Europe, Asia Minor and the East Indies.

It is probable that the world as a whole has not more than 750,000,000 barrels (or a little more than half a year's supply) of oil in actual possession above ground. It appears that United States stocks have been reduced by a total of 68 million barrels since the peak was passed in May, 1930. At this rate of reduction it may take about 10 months to one year longer to reduce these stocks to 1927 levels, provided that no abrupt changes occur in consumption or production.

It is obvious, however, that price levels are less affected by totals of oil stored above ground than by conditions of uncertainty in East Texas and by Roumanian dumping and Soviet price-cutting. World demand might even take the measure of Russian and Roumanian productive capacity, were it not for the danger of another flood of oil from East Texas. If either of these three regions could be rationalized or brought under control, the world picture might change overnight.

It might even be said that stocks approximating 750,000,000 barrels are not too great for a world threatened with war and economic blockade.

No General World Surplus

In explanation of the preliminary calculation made above, it is submitted that the investigator may assume that there is no great over-burden of stocks outside Roumania and the United States. Surpluses of oil are built up in artificial storage in advance of market demand only as a result of offset drilling and competitive operation. Since such conditions do not occur to any great extent in flush fields outside the United States and Roumania, foreign producers are able to retain their reserves underground until needed, and are not driven to the construction of costly artificial storage.

It is doubtful if above-ground reserves in South America, Europe, Asia, and Africa exceed the totals which will be sold or consumed on these continents during the next three months. It is probable that oil stored above ground outside the United States and Roumania does not greatly exceed actual commercial requirements.

It is assumed that Russian stocks were increased by a few million barrels during 1931, but such increases probably were offset by withdrawals from steel storage in other countries. General conditions in Mexico are well known, and are not conducive to the accumulation of surplus stocks. Steel tankage available in Trinidad, Colombia, Peru, Ecuador, and Argentina does not reach a figure which would materially affect world markets. Indeed, with the possible exception of Trinidad and the Maracaibo Basin, available tankage does not greatly exceed actual requirements for handling, refining, and shipping. The same is true of Burma; and producers in Persia and the East Indies are under no necessity of producing oil in excess of market requirements.

Roumanian storage is full to overflowing, and conditions there have affected European markets to a degree which is far out of proportion to the percentage of European demand which is supplied from that source.

End of Oil Depression Seen in Price Upturn

Producers' Hope of Better Prices Seems Likely to Be Realized Soon

By H. J. STRUTH
Staff Economist

BELIEVE it, or not—the depression, so far as the oil industry is concerned, is over.

It may be difficult to believe this, after all of the false starts that have been witnessed from time to time, but the barometer says "clear weather" and a look at the horizon offers sufficient reason to believe that the barometer is right.

Refined oil prices, the principal deterrent to better crude prices, have turned definitely upward and appear at last to be headed for levels that will justify higher crude prices.

It will be remembered that it was an advance in the wholesale gasoline market last July and August which boosted the price of Mid-Continent crude from 18 cents to 62 cents a barrel. At that time, however, refiners were unable to maintain higher prices because of inability to control their operations. Now, the advance in the refined oil market structure is apparently supported by concerted control of supply and is further backed by the unusually favorable statistical position of the producer.

There has been a lot of talk in the business world in general to the effect that the bottom of the depression has been reached. Even months ago, statements were made to the effect that the depression was ended and better times were immediately ahead. Nevertheless, aside from spasmodic, short-lived flurries in the stock market, there has been little evidence to prove that the business tide had turned for the better. In fact, so-called "recovery" was based more on hopes than on tangible evidence. Almost all reliable indexes of business activity and wholesale and retail commodity prices have revealed a continuation of the toboggan toward unknown, unprecedented depths. The turn of the new year, previously anticipated to exert a psychological effect upon the trend of business volume and prices, marked only a further slump that caused a panicky feeling among all who have hopefully tried to penetrate the black clouds on the horizon.

March Looks Like Turning Point

In the oil business, the picture has been similar to that of all business; continued crumbling of refined oil prices offering practically no encouragement to the producer for a better crude market. January was a poor month in the refined oil market; February was even worse, with the marginal value of refined products over crude at the lowest point in many years. March appears likely to be heralded as the critical turning point for the oil industry. Gasoline prices have at last begun to show improvement, particularly in the Mid-Continent refining area; improvement sufficient to mark the coup d' grace of the oil industry's miserable siege of depression. At any rate, the marginal value of refined products over the posted price of crude, for the United States, turned upward, abruptly, this month and added on an average of 11 cents a barrel to the industry's revenue. The average value of products manufactured from a barrel of crude oil is now $1.42, against $1.31 in February. The margin over the posted price of crude is now 61 cents a barrel, against only 50 cents a barrel in February.

The accompanying chart portrays what has happened to the industry's price structure and revenue since 1929, in comparison with preceding years. It shows that the marginal value of refined products over the price of crude oil has narrowed down to the point where financial loss was impossible to escape. It emphasizes the inequalities that have existed between the price of crude and the market value of refined products therefrom. It shows that the refiner has been "up against it" in having his margin shrink from an average of $1.50 a barrel in 1929 to only 50 cents a barrel in February, 1932, out of which he had to pay transportation charges on crude and refining and overhead costs, plus selling costs, interest and depreciation. Obviously, his losses must have ranged from an average of 50 cents to a dollar a barrel. At the same time, the producer has also been operating at a loss, on the average, although the advance in prices realized last year proved of material benefit and undoubtedly minimized losses for some and earned a small profit for others.

What Prices Should Be

The accompanying table sets forth the salient facts portrayed in the chart. It also presents an adjusted margin which involves correction for inventory changes. These facts offer the conclusion that the normal or medium margin of refined product values over the posted price of crude is about $1.25 a barrel, with crude selling at the well for $1.30 a barrel. This implies that the refiner should obtain $2.55 in refined products from a barrel of crude costing $1.30 at the well, out of which he is able to pay for pipeage, refining and selling costs, overhead, interest and depreciation and still retain a reasonable profit on his operations. Contrast this with the situation prevailing at present. In relative degree, the refiner must be able to sell the products from a barrel of 81-cent crude for at least $1.59 to justify paying 81 cents for crude and must obtain a revenue of $2.06 a barrel to maintain the degree of profit of preceding average years. This means that justification for paying 81 cents a barrel for crude is practically at hand; with the need for an increase in value of refined products of only an additional 17 cents per barrel. This will undoubtedly be realized within the present month. As the price level of refined products rises and is sustained by continued improvement in the statistical position, it is logical to expect an upward revision, also, in the crude market. How soon the producer will be able to receive an

Trend of Revenue From a Barrel of Crude Oil

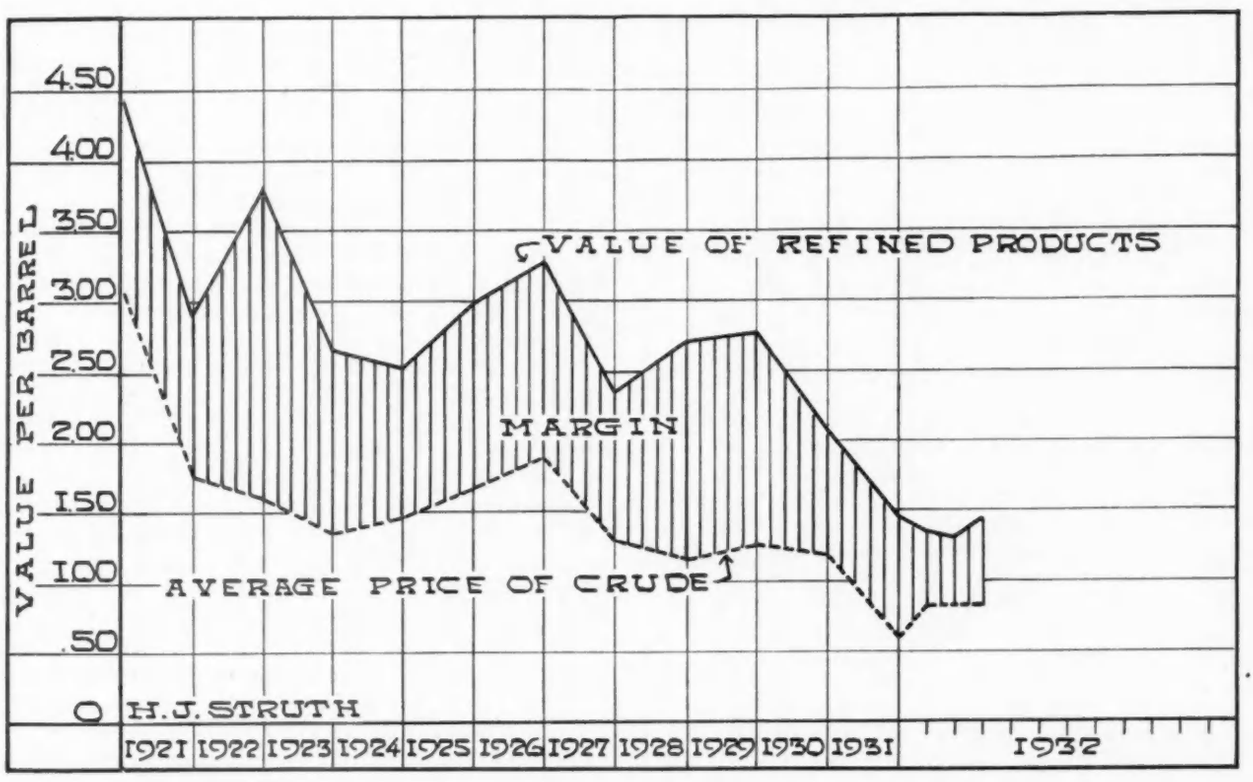
Average of United States

Period	Average Price of Crude at Wells	Average Value of Refined Products	Margin	Margin Adjusted for Inventory Changes
1920	3.07	4.44	1.37	1.30
1921	1.73	2.90	1.17	.97
1922	1.60	3.80	2.20	1.83
1923	1.35	2.63	1.28	1.11
1924	1.44	2.51	1.07	1.03
1925	1.69	3.00	1.31	1.26
1926	1.89	3.29	1.40	1.43
1927	1.30	2.33	1.03	.95
1928	1.17	2.70	1.53	1.48
1929	1.27	2.77	1.50	1.41
1930	1.19	2.08	.89	.91
1931	.60	1.45	.85	.88
1932—(Monthly)				
January	.81	1.37	.56	.59
February	.81	1.31	.50	.50*
March	.81	1.42	.61	.61*

*Without inventory adjustment.

increase in crude prices depends upon the refiner's margin, as set forth herein. Obviously, when the value of refined products per barrel of crude passes $1.59, the refiner will still not be able to show a profit but his morale will have undergone a marked change for the better. Just where to draw the line between refinery profit and loss is a difficult matter. Yet, it is evident that a margin of $1.25 over the posted price of crude is conducive to profitable refinery operations for the industry as a whole. At any rate, a margin of somewhere between 78 cents and $1.25 will be found to represent the dividing line between profit and loss. When the dividing line is crossed, the producer will benefit by a higher posted price.

No one can state definitely when crude prices will advance. To say that a higher crude market is imminent within the next few weeks is a mere guess, founded only upon hope. By watching the margin of the refiner during the next few weeks, however, the producer will be able to judge the relative merit behind his hope for a better crude market. No, we cannot state definitely, as yet, when the producer will get a higher price for his oil—but we can state that the fundamental curve of revenue has definitely turned upward. We do not think the upturn is a false start—we thing it is a positive sign that better times are just ahead. Much depends, however, upon continued control of supply.



March marks the turning point in the industry's price structure. This shows that the margin between crude and refined values is widening.

House Fight on Sales Tax Revives Federal Gasoline Tax

(*Continued from page 9*)

were led by Representative Fiorello H. LaGuardia of New York, who accepts the oil tariff item but opposes the sales tax.

Revolt in the ranks of both parties reached such a state on Friday that a coalition of insurgents was able to introduce and pass by large majorities an amendment by LaGuardia to raise the tax on incomes above $8000 and another by Representative Philip D. Swing, republican of California, for the restoration of war-time surtaxes on incomes falling within the higher brackets.

The strategy of the opposition is, first, by amendments, to offer substitute measures of such fertility that a sales tax will not be necessary; or, failing that, so to puncture and patch the bill with amendments and distortions of all shapes that it will meet with rejection by the senate.

The "manufacturers' excise tax," or sales tax, was relied upon to supply $595,000,000 of revenue per annum. The income tax amendments adopted on Friday are expected to furnish only 25 per cent as much, leaving about $445,000,000 to be raised from other sources. It would be surprising, in event of the ultimate defeat of the sales tax, if the sum of $150,000,000 per annum, the estimated yield of the one-cent excise on gasoline when under consideration by the committee, should be overlooked in the "exploration" of other sources of revenue.

Speaker Garner said, appropos of opposition with which the sales tax has been met, that "There comes a time in the nation's financial life when the question of preference as to methods of raising necessary revenues becomes inconsequential and insignificant in the face of the need of actually and quickly providing the means of maintaining the government's financial itegrity.

"It is such a situation which confronts us today, and with that situation all economic theories must yield to the necessities of the nation."

Observers from the oil industry are doubly interested in the fate of the sales tax, as it seems at this writing that its enactment may assure the success of the tariff, while its defeat may result in the resurrection of the federal tax on gasoline.

Position of Petroleum Import Ttax

Representatives LaGuardia, Swing, and others active in opposition to the sales tax are committed in favor of the tariff on oils; and it is believed that, if it could be divorced from the sales tax, it would meet with ready acceptance. Wirt Franklin and those who have carried his fight onto the floor of the house have succeeded in the creation of a certain feeling of sympathy for the independent section of the domestic oil industry. Such sentiment is believed to be sufficiently strong to assure the adoption of the tariff measure, unless it should be buried in a possible collapse of the sales tax; but it probably is not strong enough to defeat the gasoline tax project, if it should be revived in an effort to balance the budget after the defeat of the sales tax.

The house unmistakably is in a punitive mood. The debate of last week proved that John D. Rockefeller, despite his advanced age, is a very real and sinister force in the estimation of some members of congress. It seemed to listeners in the galleries that certain dignitaries on the floor made no distinction between this bugaboo, variously denominated as "John D. Rockefeller" and "Andrew Mellon," and the oil industry as a whole. It is entirely possible that shooting directed at such targets may result in the wounding of by-standers, or of members of other sections of the industry. It also is possible that the raising of these fetishes on the floor of the house may, in such an eventuality as has been outlined, result in the re-insertion of an excise on gasoline partially to replace the sales tax.

It is possible that many of the law-givers who are entrusted with the fate of this nation have not yet dissociated the duty on foreign oils from the excise on lubricating oils, which would apply to products of domestic as well as foreign origin.

Many amendments will be offered when the oil sections come up for consideration. Proponents of the tariff, taking a leaf from the Japanese notebook, are expected to offer "Shanghai" amendments for doubling and tripling the rate of one cent per gallon, in hope of effecting a compromise on "Manchuria," or on some lower rate. Other amendments will be offered to strike out these sections; and for the inclusion of a "drawback" clause to permit the importation of crude and the reexport of refined products without payment of duty. An effort also may be made to raise or revise the rate on refined products and to lower or adjust the rate on crude, to allow the importation of raw oil to be refined on the Atlantic seaboard in preference to refined products manufactured abroad. Manufacturers of asphalt, whose plants are situated within the United States, are expected to seek protection from refined and natural asphalt manufactured in Mexico and mined in Venezuela and Trinidad. The bill as submitted by the ways and means committee contains no mention of this derivative; but California parties are expected to remedy this oversight. If the bill should be enacted in its original form, asphalt manufactured within the United States from crude of foreign origin would suffer a great handicap in competition with the finished product manufactured or mined abroad.

Republican members held a caucus on Friday, following which Representative Bertrand H. Snell, republican leader, reiterated his earlier prediction of an easy majority for the sales tax. After the house session of that date and before the caucus, however, he had said that "I am not yet saying that the sales tax is defeated, but it most certainly is not in as good shape as it was." Mr. LaGuardia, leader of the "allied progressives," voiced the expectation of "an even greater majority against the sales tax provisions now."

Los Angeles.—The Third Annual Oil Equipment and Engineering Exposition, held at Compton, a suburb of Los Angeles, opened Monday with considerably more exhibitors and a larger crowd than the average pessimist had prophesied. While the number of exhibitors for the third exposition was less than last year, the actual number and the equipment displayed was an agreeable surprise, and the number of men attending seemed to be about the same as last year. Considerable new equipment was displayed and attracting interest. Some of the booths occupied last year by exhibitors were occupied by organizations allied with the petroleum business and the exposition gave signs the first two days of exceeding the predictions even of its friends.

Natural Gas Got First Chance In New York State

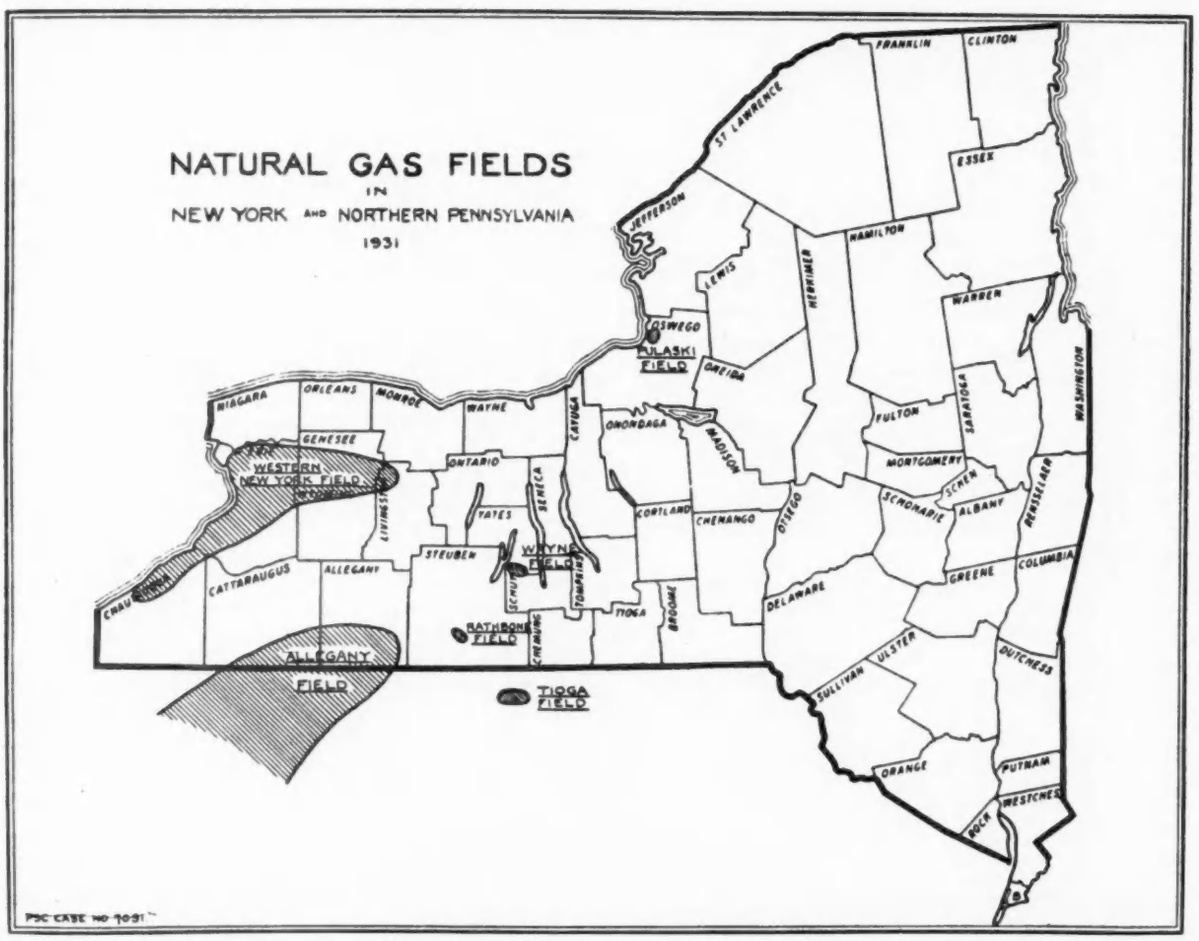
Industry developing into one of major importance as large distribution facilities appear

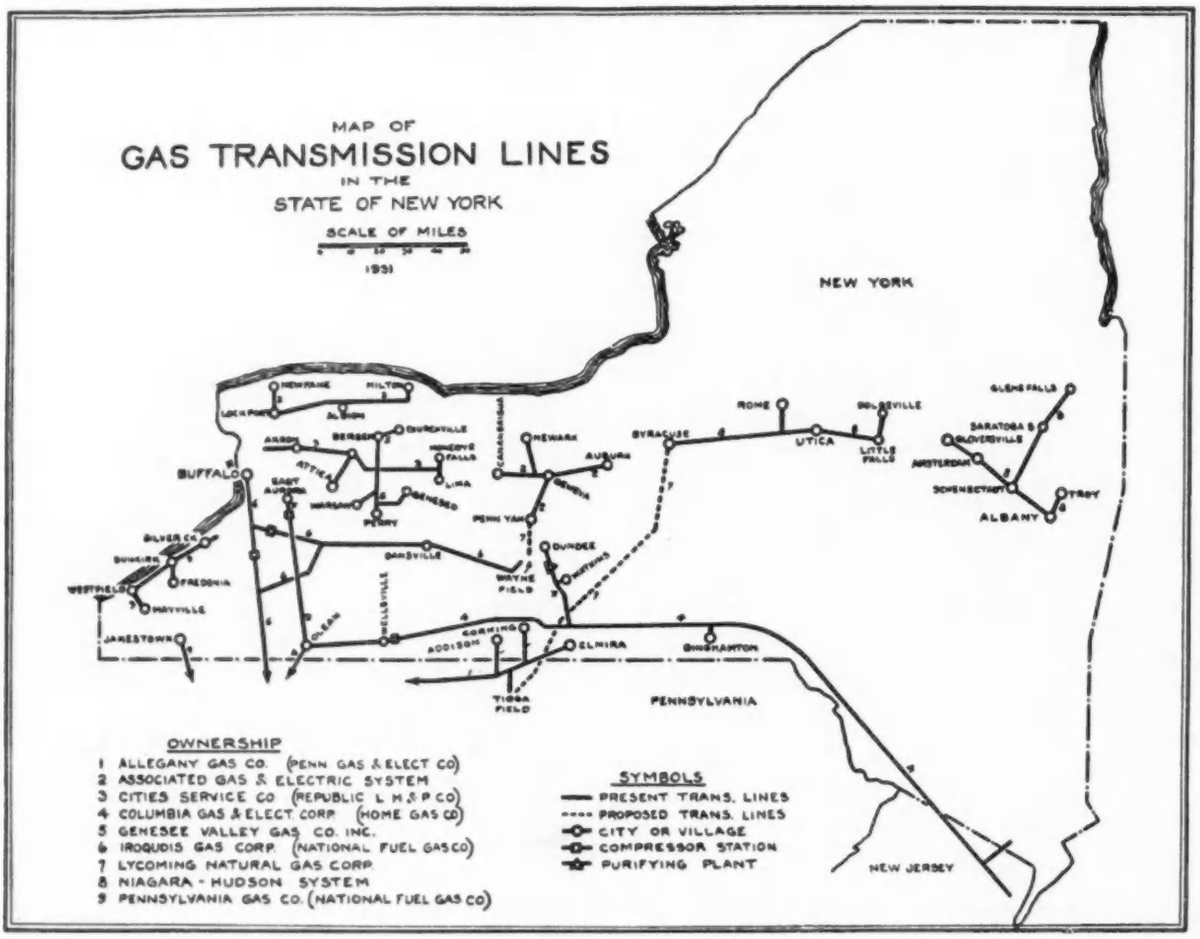
INTERESTING historical and technical data are available in a bulletin recently compiled by the New York State Public Service Commission. (Reference, Case No. 7091.)

It may be learned from that source that the first natural gas drilling of any consequence in the United States was in Fredonia, New York, about 1821. It is said that, after two failures, natural gas was encountered at a depth of about 70 feet and thereafter was distributed through small lead pipes to the hotel and several stores in the village, thus beginning the production, transportation, and utilization of natural gas in this country.

"Natural gas has been found in a wide range of geological formations in western New York in some 25 different fields, many of which have already been drained of their principal supply. Commercial occurrences of natural gas are limited, however, to a few formations which are capable of holding large quantities of gas. The largest and most permanent supplies have been obtained from the Chemung and Portage sandstones, Marcellus shale, Onondaga limestone, Oriskany sandstone, Salina water lime, Medina sandstone, and Trenton limestone.

("The development of an increased supply of natural gas in the Colden-Aurora field near Buffalo and the utilization of existing oil pipe lines for natural gas transmission in 1928-1929 were followed by considerable activity with respect to natural gas in the south central portion of the state of New York and the contiguous northern part of Pennsylvania. In 1930, with the bringing in of large volume gas wells in the Wayne-Dundee field in Steuben, Schuyler, and Yates Counties, New York, and in the Farmington or Tioga field, in





Tioga County, Pennsylvania, just south of the New York-Pennsylvania state line, such activity was given further impetus.")

"Until the discovery of gas in the Oriskany sandstone at the Wayne-Dundee and Tioga fields in 1930, the Medina sandstone had for several years been thought to be the most important source of natural gas in the fields in western New York and northwestern Pennsylvania. So the bringing in of high pressure, large open-flow gas wells from Oriskany sandstone created quite a stir in natural gas circles . . .

"The first producing well in the Wayne-Dundee field was completed to Oriskany sand in March, 1930, . . . by the Belmont Quadrangle Drilling Corporation, . . . and resulted in great leasing and drilling activity in the entire region. . . .

"Although the proven area of the field was not in excess of 7,000 acres, the four principal owners of producing wells had the following acreage under lease in the vicinity of the Wayne-Dundee field:

"Belmont Quadrangle Drilling Corp. ..Approx. 20,000 acres
"Lamoka Power Co.-Bigelow Natural Gas Corp. .....Approx. 12,000 acres
"Tri-State Oil & Gas Co. .....Approx. 5,000 acres
"Cunningham Natural Gas Co. .....Approx. 17,000 acres

Approx. 54,000 acres

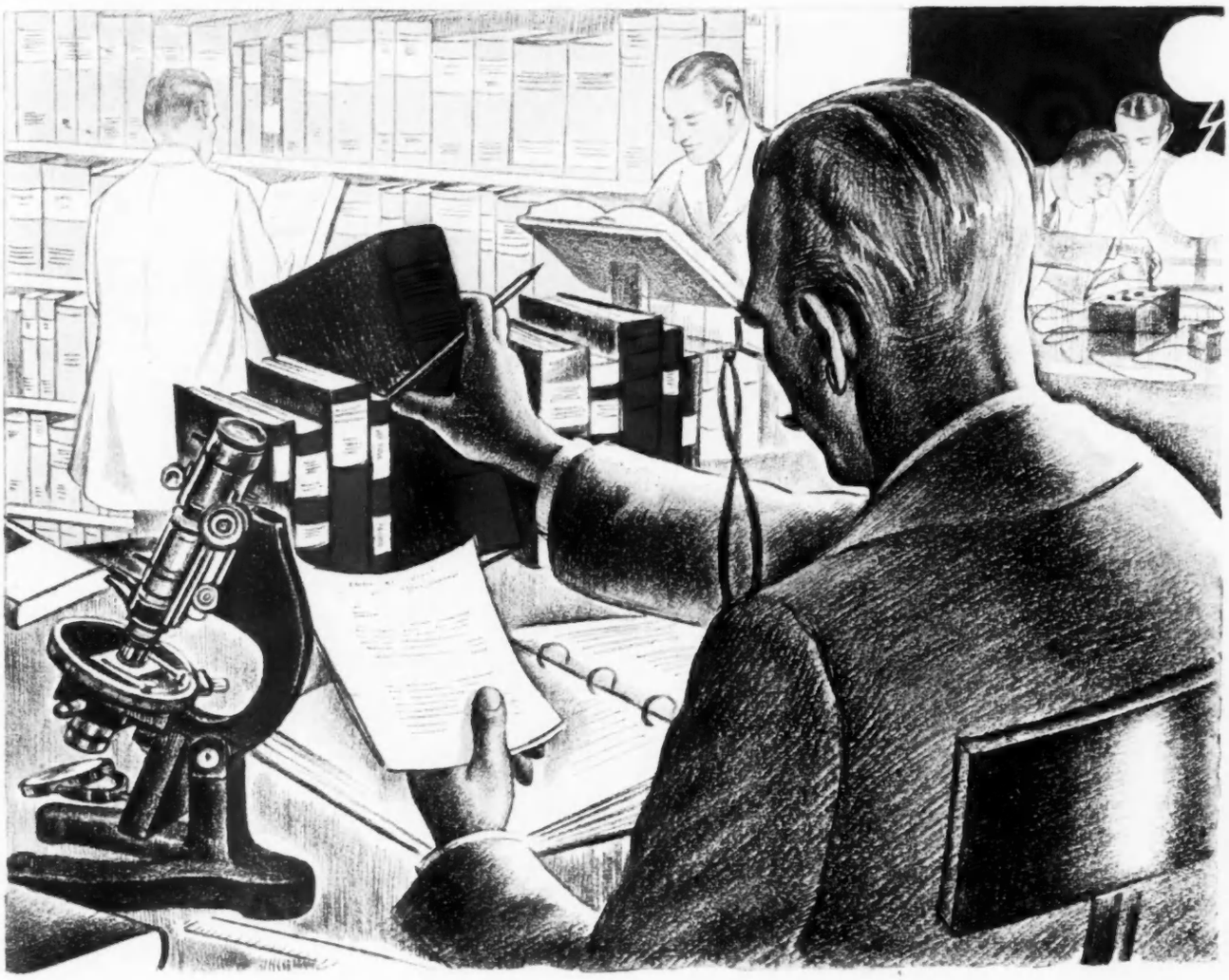
"Drilling in the Wayne-Dundee field has been particularly active in the western end, the Wayne village section, where intensive so called 'townlot' drilling has been conducted . . .

"One peculiarity of the Wayne-Dundee field should be noted: the gas produced in the westerly part of the field is sweet gas, i. e., gas which contains no sulphur or other impurities which must be removed before utilization for general and commercial purposes, while the gas from the eastern end of the field is 'sour gas,' containing sulphur which must be removed . . .

"It thus appears that the Lycoming Natural Gas Corporation effectively dominates present production in the Tioga fields (of Pennsylvania) . . .

"Shortly before the close of hearings it was estimated that the reserves in the Tioga field, as it then extended, were nearly 135 billion cubic feet. It was later stated that the bringing in of a new well in Potter County, considerably to the west of the previously proven territory, indicated that the area of the field will be considerably greater than had been proved by drilling up to that time, and that previous estimates as to reserves must be increased. It seems only fair to note, however, that the estimates as to reserves in the Tioga field do not seem to be based on as definite and reliable data as in the case of the Wayne-Dundee field. Wells in the Tioga field would appear to be more or less of a gamble, as is indicated by the large proportion of dry holes to producing wells, even after allowing for the fact that much drilling has been done at considerable distances away from producing territory. There are geologists who believe that gas in this Tioga field is found in pockets rather than in pore spaces of the rock and that it is thus impossible to make reliable estimates of the gas in the ground. Consequently, present estimates as to reserves in the Tioga area may be greatly changed, either up or down, by future development.

"The discovery of the Wayne-Dundee and Tioga gas fields led to a great increase in leasing and drilling activity. There are 68 different operators holding leases in the Corning region comprising and surrounding the Wayne-Dundee field in the state of New York and 48 in the Tioga region in Pennsylvania,



The Official Oil Doctor is a recognized authority on crude oil emulsions. Whatever opinions may exist regarding various phases of the subject quickly can be confirmed or disproved by means of the data which he and his corps of technicians have accumulated over a period of twenty years and are on file in the Petreco laboratory. You are invited to avail yourself of such privileges whenever required.

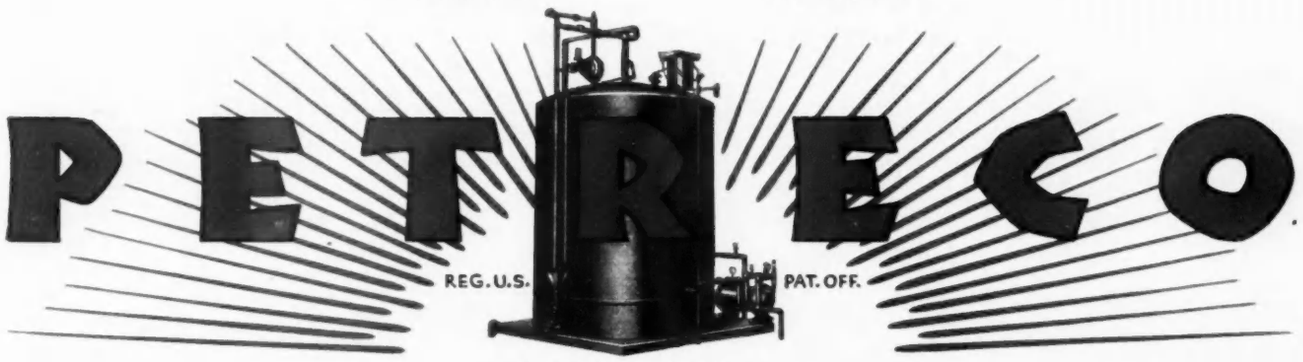
PETROLEUM RECTIFYING CO.

OF CALIFORNIA

530 W. SIXTH ST. LOS ANGELES, CALIF.

412 Petroleum Bldg., Houston, Texas

3218 Green Street, Fort Worth, Texas



Fully covered by process and apparatus patents.

five operators having interests in both regions . . . Leases have been secured covering many thousands of acres that were thought to be possible gas lands in New York and Pennsylvania, and there has been a great deal of drilling of an exploratory character. Some of this work outside of the limits of the Wayne-Dundee and Tioga fields has been moderately successful, and gas has been encountered in a number of areas. Three shallow producing wells have been brought in recently in the township of Rathbone, Steuben County, New York, and several small volume wells are producing in the neighborhood of Watkins Glen. However, none of these exploratory operations has indicated fields comparable with either the Wayne-Dundee or Tioga, and only the future can tell whether other large fields are awaiting discovery. . . .

Unit Operations

"A pooling form of lease represents a recent development. Under this arrangement all owners of lands upon which producing wells are located are included in a pool and paid royalties based on their proportionate share of the gas removed from the pool, irrespective of the well from which it is taken. The Belmont Quadrangle Drilling Corporation operates in the Wayne-Dundee fields under pooling agreements which involve a lease of five years and a nominal rental of 25 cents per acre for the leased land. As soon as a productive well is drilled the land owner enters the pool and thereafter is paid a rental based on the amount of gas produced by the wells in the field which are under the pooling arrangement, irrespective of the location of the well from which the gas is taken. This type of leasing arrangement should make possible the development and operation of a field in a more orderly and economic manner without causing dissatisfaction because certain land owners believe that their wells are not being used as much as others.

"Approximate Acreage Under Lease in New York by Certain Groups of Companies

" 1. Associated Gas & Electric System
New York State Gas & Electric Corp... 2,300 acres
" 2. Belmont Quadrangle Drilling Corp. .....225,000 acres
" 3. Cities Service Company
Republic Light, Heat & Power Co. .....175,000 acres
Penn-York Natural Gas Corp. .....224,000 acres
" 4. Empire Gas & Fuel Co., Ltd., and associated companies ..... ?
" 5. Genesee Valley Gas Company, Inc.
Pavilion Natural Gas Company..... 6,600 acres
" 6. Lycoming Natural Gas Co. and Columbia Gas & El Corp.
Lycoming Natural Gas Company .....277,000 acres
Reserve Oil Corporation .....532,000 acres
Project Acreage Co., Inc. ..... 49,000 acres
" 7. National Fuel Gas Company
Iroquois Gas Corporation .....503,000 acres
" 8. Pennsylvania Gas & Electric Corp.
Allegany Gas Co., and affiliated companies . ..... 35,000 acres
" 9. Producer Gas Co. ..... 6,000 acres
"10. Shore Gas Co., Inc. ..... 64,000 acres
"11. Tri-State Gas & Electric Corporation..... 20,000 acres
"12. Williamsport Oil & Gas Company..... 2,200 acres

"From the foregoing incomplete record it appears that more than 2,121,000 acres are already under lease in the southern and central portions of the state. There are probably many more leases unrecorded and there has undoubtedly been considerable 'top' or double leasing. . . .

"Effect of Pipe Line Development on Gas Reserves

"Pipe lines now used for the transportation of natural gas are quite different from the two-inch lead pipe laid about 1870 to carry gas a distance of five miles into Titusville, Pennsylvania . . .

"Such transmission line developments also affect the question of natural gas reserves, for they bring squarely up the present and future possibilities of importing into New York state natural gas from more distant fields located not only in Pennsylvania but in other states. The Lycoming and the Columbia Gas and Electric interests have, in addition to their reserves in the new Wayne-Dundee fields, large reserves in old Pennsylvania fields and also in West Virginia. These could be made available to any Tioga field line by the construction of a transmission line southerly about 120 miles, through what is considered as 'likely gas territory,' to connect with now existing transmission lines. There is also the possibility of connecting the old National Transit oil lines, extending southeasterly from Binghamton, New York, into Bergen County, New Jersey (now reconditioned for natural gas transmission and controlled by Columbia), with the line recently constructed by Columbia northerly from the Kentucky and West Virginia fields, to the vicinity of Washington and Baltimore."

"Cost of Gas Wells, Well-Lines, and Gathering Lines

"From testimony presented in behalf of the Belmont Quadrangle Drilling Corporation, it would appear that the total cost per well in the Wayne field is approximately $3.50 per foot, which for a well 1772 feet deep (the approximate average depth of the wells in this area) would amount to about $6200 per well, including drilling costs, pipe in the well, and equipment at the well-head. For the Dundee field, where wells are somewhat over 2000 feet deep, the same company reports costs of approximately $3.91 per foot, or about $8,100 per well.

"The Allegany Gas Company claims its total cost of drilling five producing wells in the Tioga fields (including two dry holes) amounted to $14,714 per producing well. The total cost of pipe in these wells and the equipment at the well-heads amounted to $56,573, or an average of $11,315 per producing well. This would make a total cost for these five producing wells, including the cost of two dry holes, $28,029 per well or approximately $6 per foot, the wells averaging about 4347 feet deep.

"The Lycoming Natural Gas Corporation estimates that its producing wells in the Tioga field will cost approximately $25,000 each, including pipe in well, cost of dry holes, and all equipment at the head of well."

The findings of the Public Service Commission contain other technical data relating to the cost of gathering lines, transportation of natural gas and dealings between the related companies, cost of transmission lines, cost of transmitting natural gas, estimated cost of supplying natural gas from Tioga field to the vicinity of Syracuse, New York, and so forth, which would be of particular interest to gas engineers, and would make a worthy addition to any engineering library or file.

"OILWELL'S" *Triple Treatment*

. . . sweeps aside all previous conceptions of Rod Performance

If you recognize the need for Sucker Rods whose entire grain structure has proper hardness and uniformity, maximum strength, greatest possible toughness and ductility—here they are! "Oilwell" Triple Treatment Sucker Rods lead in performance because they:

1. Combine the advanced knowledge and skill of foremost metallurgists and mechanical engineers;

2. Conform to the most exacting demands of leading petroleum engineers and production men;

3. Continue to pump crooked, deep, difficult wells with revolutionary reductions in breakages and repairs.

OIL WELL SUPPLY CO.

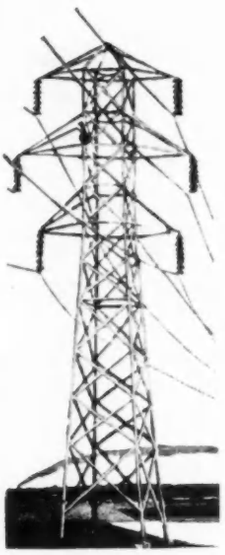
Branch Stores in all Oil Fields

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

1837

THE CALL of the WILDCAT

ALERT electric power companies are quick to answer the call of the wildcat. They know the dependence of progressive oil companies on electric power because it enables them to move to new locations more quickly and at less cost . . . because it saves them money through less operating expense and less overhead . . . and because it is a power that drillers and power superintendents like. It is smooth, flexible and convenient. Nowadays, when a location is made electric power is thought of as water was in the past.



For drilling or pumping, electric power has met the test. This organization is proud of its well-proven ability to meet the requirements of the petroleum industry. Consult our engineers on your power problems.

GULF STATES UTILITIES COMPANY

General Offices

BEAUMONT, TEXAS **LAKE CHARLES, LA.**

Relation *of* Earth Temperatures To Geologic Structure

In the Dilworth Field, Kay County, Oklahoma

By JOHN A. McCUTCHIN
Geological Engineer

FOR the three years ending July 1, 1931, the American Petroleum Institute has been carrying on an extensive investigation of earth temperatures in California, Texas and Oklahoma. The purpose of this research has been to determine the possibility of using temperature data for the location of future oil pools, particularly in areas where the generally used geological and geophysical methods meet with little success.

History of the Study of Earth Temperatures

Almost from the time of establishment of the United States Geological Survey in 1879, to the present, the question of the internal heat of the earth has been accorded more or less attention by the geologists of that organization.

In 1921, C. E. Van Orstrand, a geophysicist of the United States Geological Survey, began making accurate observations in deep wells drilled for oil or water by lowering maximum thermometers into the wells on piano wire. Mr. Van Orstrand found among other interesting facts that earth temperatures varied from the extremely rapid rate of 1° F. in 20 feet, the value found in some of the oil fields in Wyoming, to 1° F. in 200 feet, the extremely slow rate found in the gold mines of Johannesburg, South Africa.

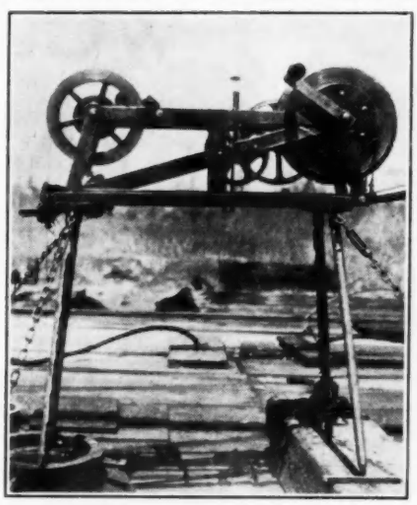


FIGURE 1

No serious attempt was made to explain these wide variations in temperatures of the rocks at the same depths in the earth until it was found in some oil fields in Wyoming and California that the temperatures of the rocks at given depths in some of the fields were higher than those found at the same depths in the rocks immediately surrounding the fields.

These observations immediately attract attention for two reasons. In the first place the petroleum geologist saw in these data the possibility of utilizing temperature tests as an aid in locating oil fields; and

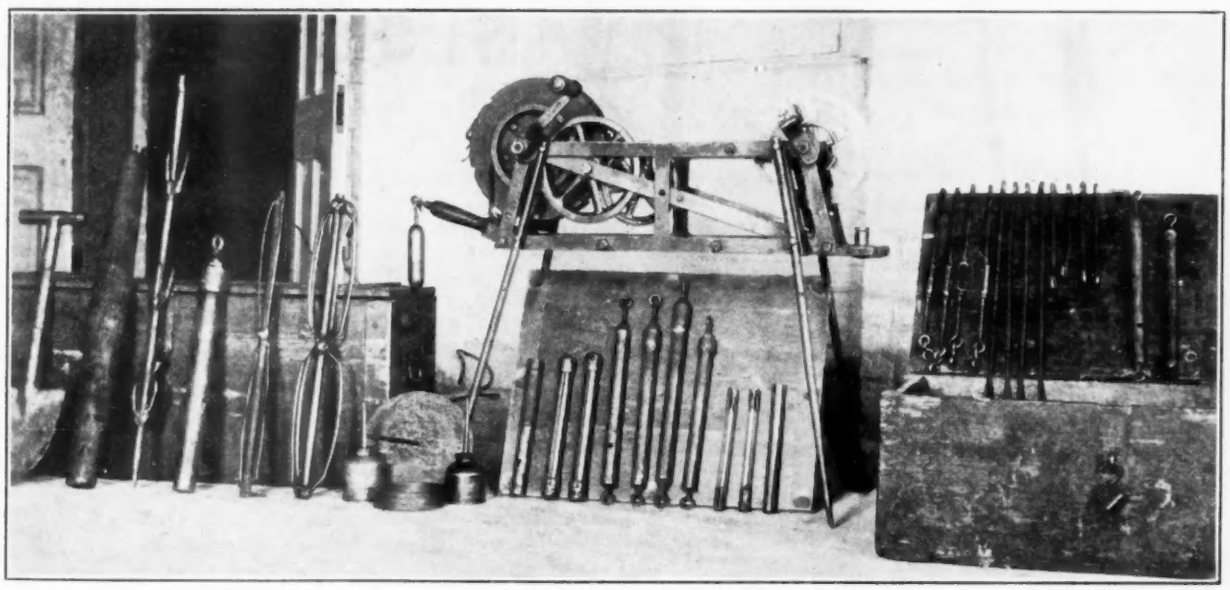
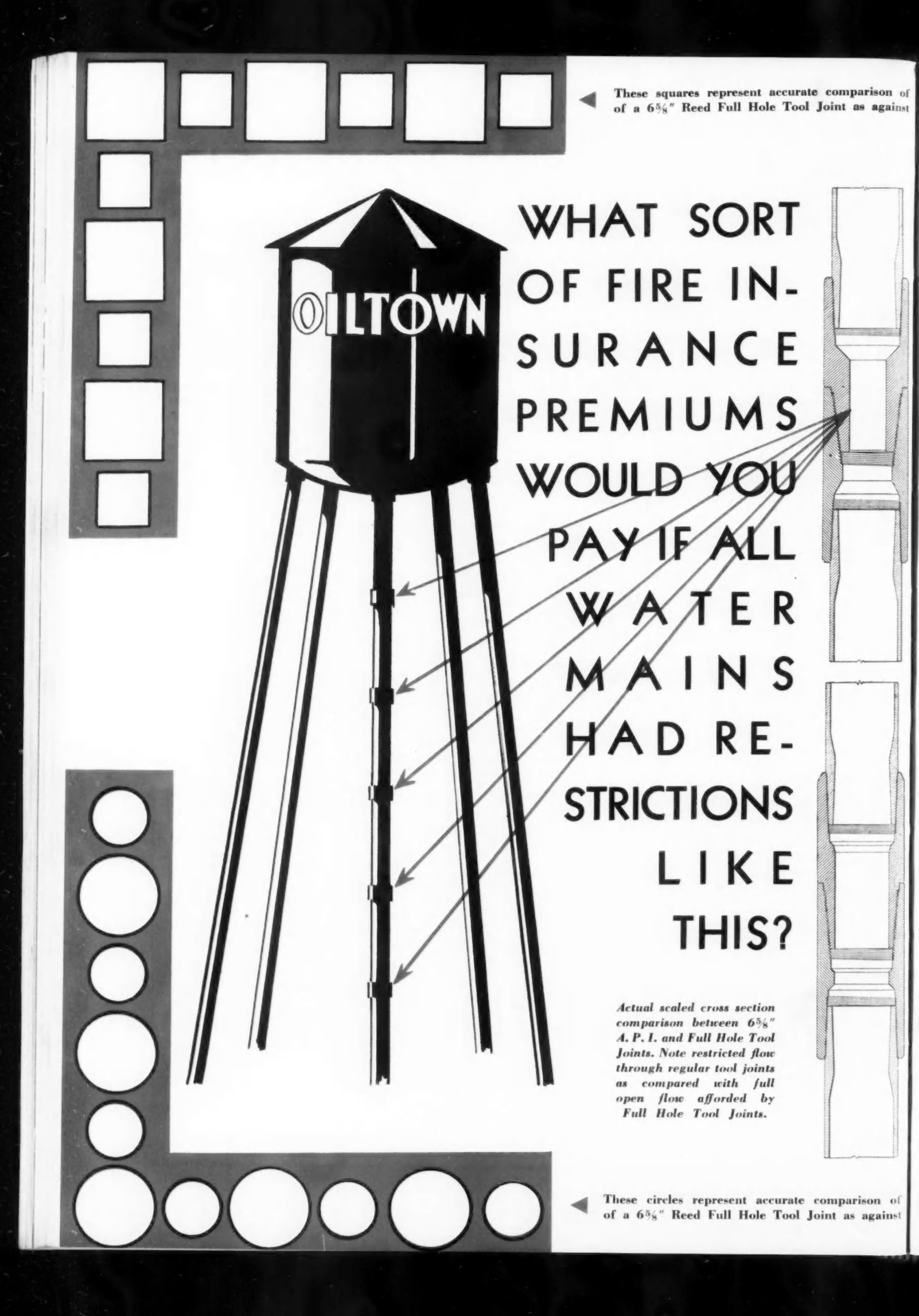


FIGURE 2
Thermometers, thermometer tubes and apparatus for lowering into hole


These squares represent accurate comparison of of a 6⅝" Reed Full Hole Tool Joint as against
OILTOWN
WHAT SORT OF FIRE INSURANCE PREMIUMS WOULD YOU PAY IF ALL WATER MAINS HAD RESTRICTIONS LIKE THIS?
Actual scaled cross section comparison between 6⅝" A. P. I. and Full Hole Tool Joints. Note restricted flow through regular tool joints as compared with full open flow afforded by Full Hole Tool Joints.
These circles represent accurate comparison of of a 6⅝" Reed Full Hole Tool Joint as against

the actual area of the opening through the pin end a standard A. P. I. tool joint of the same size. ▶

WATER tanks are elevated for the purpose of providing pressure at the hydrant.

A restriction such as shown by illustration between each joint of water main would impair both flow and pressure.

Your drill pipe is your water main, from your pressure tank — the pumps — and when ordinary tool joints are used, the slush flow is restricted at each joint.

In consequence you are paying a high premium in pump repairs, in wear and tear on rig, and in reduced drilling speed, all of which make for increased drilling cost.

Reed Full Hole Tool Joints eliminate back pressure on pumps and save in maintenance cost.

Reed Full Hole Tool Joints deliver full volume of slush to bit outlets, increase drilling speed and decrease cost per foot of hole drilled.

Reed Full Hole Tool Joints have a torsional strength no less than that of regular A. P. I. joints.

Reed Full Hole Tool Joints have a better designed threaded connection than ordinary tool joints, due to greater area of threads.

Reed Full Hole Tool Joints will spin up easier due to larger pin diameter.

Reed Full Hole Tool Joints will break out easier than ordinary tool joints due to lesser shoulder.

Reed Full Hole Tool Joints are manufactured from finest of selected chrome nickel alloy pressed steel forgings, accurately machined and electrically heat treated.

Reed Full Hole Tool Joints cost no more than other nickel alloy tool joints and the savings effected in maintenance and increased drilling speed, more than offsets the initial cost.

Take advantage of all these features the next time you buy tool joints — buy Reed Full Hole Tool Joints.

REED ROLLER BIT CO.

HOUSTON NEW YORK LOS ANGELES OKLAHOMA CITY

Gulf Coast and Mid-Continent Distributor for MARTIN-DECKER PRODUCTS

the actual area of the opening through the pin end a standard A. P. I. tool joint of the same size. ▶

in the second place, they attracted the attention of theorists who attempted to explain the observed variations of temperature on the basis of well known facts in the sciences of physics, chemistry, and geology.

Detailed temperature surveys have been made in over 300 wells located in 40 oil fields of Oklahoma and Kansas, by the writer. While the relations in any field in these areas are practically the same, the relations of earth temperatures to geologic structure in the Dilworth field of Kay County, Oklahoma, has been chosen to illustrate the possibilities of using earth temperatures to locate oil fields.

Description of Methods and Apparatus

The method used to obtain temperatures in the wells involves the lowering of maximum thermometers into the wells on piano wire, and making observations at 250-foot intervals from the top to near the bottom of the well.

The thermometers used are mercury-in-glass thermometers of the maximum type which are especially constructed with very small constrictions so that they will not be shaken down easily as they are withdrawn from great depths. Three thermometers in a single container are lowered to each point where an observation is to be made and the average reading of the three taken as the temperature of the rocks at that point.

Each well is tested as though a laboratory experiment were being carried out and no effort is spared to make the observations highly accurate. The thermometers are constructed accurate to two-tenths of a degree and are read to one-tenth of a degree by means of a thermometer reading telescope. With this type of apparatus it is believed that an accuracy of two- to three-tenths of a degree F. can be maintained.

The thermometers are inclosed in perforated brass tubes when the readings are to be taken in air and are left suspended for an hour and a quarter at each point where an observation is made. When the reading is to be taken below the fluid level in a well the thermometers are placed in a sealed still tube which protects the thermometers from the fluid pressure, and are left suspended in the fluid 45 minutes.

The machine used to lower the thermometers into the well is hand operated (See Figure 1). It consists of a steel frame and measuring wheel which accurately records the depth in feet; a reel about a foot in diameter and three inches across the face is provided for spooling the piano wire. The reel is equipped with two handles for winding the thermometers out of the well, and a brake to facilitate lowering them into the well. The machine is mounted on a four-legged stand and guyed to the derrick floor by means of turn buckles to prevent vibration as the thermometers are raised and lowered. The total weight of this machine, including 6000 feet of piano wire, is about 85 pounds. Figure 2 shows the entire apparatus including the thermometers and thermometer tubes.

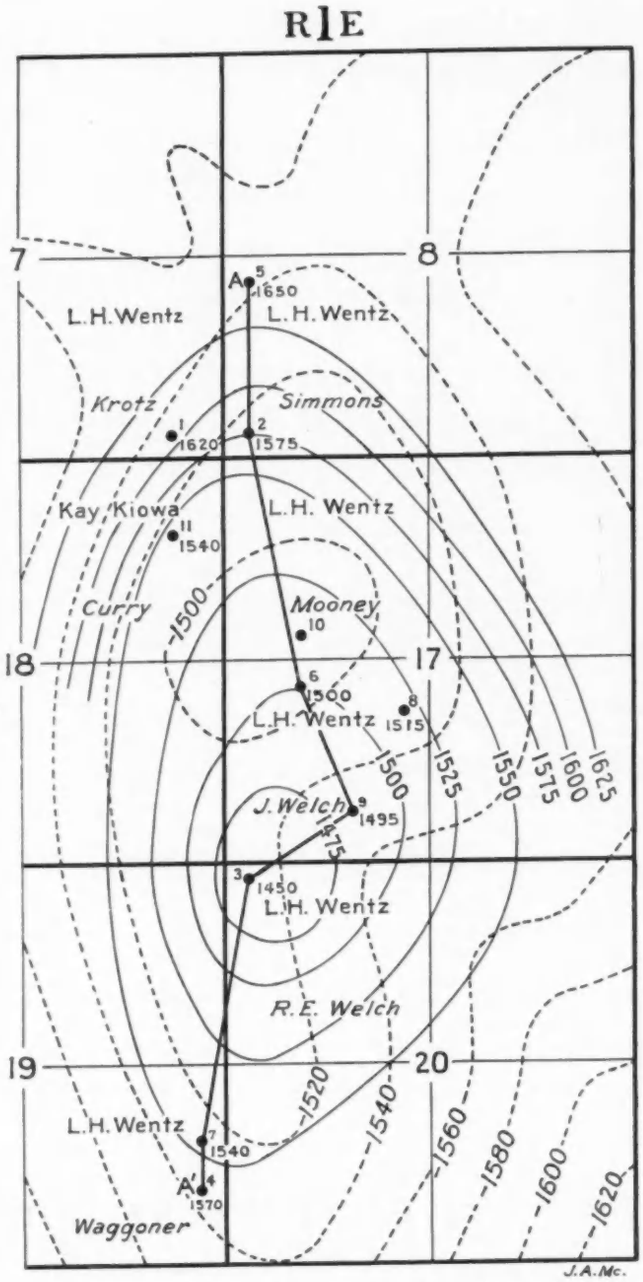
History and Geologic Structure of the Dilworth Field

The Dilworth field is located in T. 28n, R. 1e, Kay County, Oklahoma, about 10 miles northeast of the town of Blackwell. This field has also been referred to as the Blackwell field in published reports.

Development was started in this field by Marland Oil Company and others in 1912. The initial production of a few wells was 2000 barrels and some of the wells produced a half million barrels of oil within a year.

The structure is made up of two highs in north-south alignment, separated by a saddle and is of the familiar granite ridge type. All of the wells available for temperature tests are located on the south dome. The fold is an extension of the granite ridge of Kansas and is on the Garber, Thomas, Otstot line of folds in Oklahoma.

Due to the absence of any notable unconformities above the base of the Pennsylvanian, a structure map of any area, contoured on any key bed within the Pennsylvanian or Permian, is similar, in the mathematical sense of the term, to a structure map of the same area contoured on any other key bed within the Pennsylvanian or Permian. That is, the essential structural features are identical, practically the only difference being in the degrees of dip indicated. The dip on the formations increases with increasing depth. Pro-



PORTION OF THE DILWORTH FIELD
FROM OKLAHOMA GEOLOGICAL SURVEY BULL. 40-H

Contoured on top of the 90°F. isothermal surface.

Contoured on top of the Layton sand.

PLATE I - PART A

IN EVERY ONE OF THESE HOOK-UPS THERE'S A PLACE FOR TONCAN

REG U.S.PAT.OFF.
TONCAN
COPPER
MO-LYB-DEN-UM
IRON PIPE

It isn't hard to find. Just put your finger on the pipe that needs most frequent replacement—where corrosion quickly saps the strength from ordinary pipe—and that's where Toncan Iron will most quickly demonstrate its value.

No ordinary pipe is this alloy of refined iron, copper and molybdenum. In a comparatively short time it has demonstrated its remarkable rust end corrosion-resisting qualities in refinery service. Thousands of feet are now rendering economical service in crude lines, acid sludge lines, sulphuric acid lines, clay slurry lines, crude oil retort lines, in hot brine tank coils, in cooling towers, in casing head plants, in steam coils, in oil coolers, in rectifiers, in gasoline recovery and re-run stills.

Somewhere in your plant there is a place for Toncan Iron Pipe—a place where you can use this modern alloy to eliminate "shut-downs," to minimize replacements, to actually save money in spite of the ever-present elements that quickly cause corrosion of ordinary pipe.

Send for a copy of "Pipe for Permanence" and get all the facts.

REPUBLIC STEEL CORPORATION

GENERAL OFFICES YOUNGSTOWN, OHIO

duction in this field is closely associated with the two well defined elongated domes.

Production Formations

The shallowest production of consequence in this field is the gas found in the Neva limestone at depths ranging from 700 to 750 feet. The producing area of this limestone covers the top of the north dome, but, instead of conforming to the structure in the southern part of the field, it extends southwest in a belt about a mile and a half wide. This lack of conformity of production to structure is probably due to differences in porosity of the limestone.

The lower Hoover sand is persistent over the entire anticline. Production from it is confined largely to the upper part of the structurally higher and more sharply folded dome, although a few wells on the crest of the north dome also produce from this sand.

Production from the upper Hoover sand is limited to an area of about 200 acres on the southern extremity of the south dome. This is probably due to the lenticular character of the sand body.

The productive areas of the two sands in the Endicott sand zone are practically co-extensive. The major producing area occurs on the south dome and is approximately conformable to its structure.

The Layton sand produces only gas throughout an extensive area on the north dome, but is water bearing over the higher south dome.

The "Wilcox" sand production extends over the entire top of the north dome but is confined to the north and west flanks of the south dome. The "Siliceous" lime produces only on the crest of the south dome.

Temperature Relation to Geologic Structure

The broken contours on Plate I, part A, show the structure of the south dome and are drawn on the Layton sand which occurs at a depth of about 2600 feet in this field. The solid contours are drawn on the observed depth from the topographic surface to the 90° F. isothermal (equal temperature) surface. These solid contours, then, represent the depth that thermometers must be lowered into the wells in order that the thermometers read exactly 90° F. The 90° F. isothermal surface was chosen in preference to 100° F. isothermal surface because only a few of the wells tested were sufficiently deep to reach the 100° F. isothermal surface, and in preference to the 80° F. isothermal surface because the dips on the 90° surface are more pronounced and the closure greater.

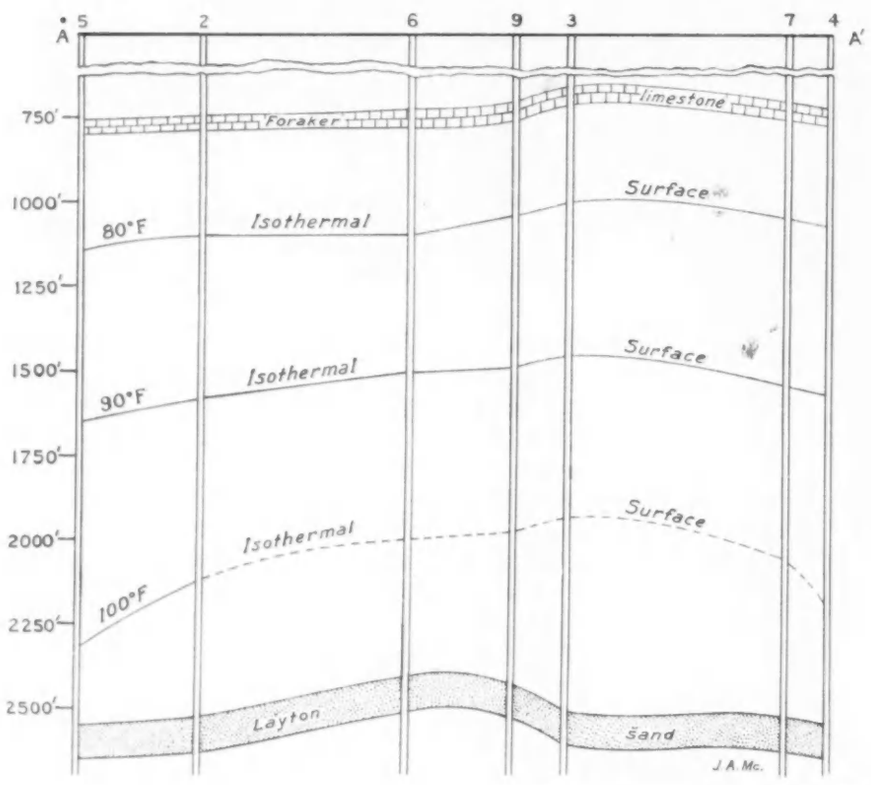
Plate I, part B, is a north-south combination temperature-structure cross-section taken completely across the south dome. This cross-section shows the relation of the 80°, 90° and 100° F. isothermal surfaces to the Foraker (or Neva) limestone and the Layton sand. The position of the 100° F. isothermal surface in all except two wells is indicated by the broken line since all the other wells were too shallow to reach this surface.

Since the difference in elevation of any two wells shown on this map and cross-section is not more than 30 feet, the isothermal surfaces were plotted from the surface of the ground, with no correction for difference in topography. The Foraker (Neva) limestone and Layton sand are plotted, using sea level as datum.

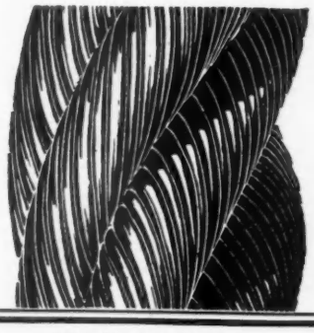
Conclusions

Plate I, parts A and B, shows a marked relation between geologic structure and the present observed position of the isothermal surfaces in the south dome of this field. This relation is so pronounced that temperature data from the first 1000 feet of the wells would have indicated the presence of the top of the dome and the dips away from the top. The cross-section also shows that the isothermal surfaces dip steeper than the geologic formations dip in this part of the field, hence, it may be said that the isothermal surfaces converge over the top of the dome.

The results of the temperature observations made in the Dilworth field and in many other fields of Oklahoma and Kansas indicate that this problem has commercial possibilities as a new geophysical method of locating buried structure. It is to be remembered, however, that all these observations have been made in proven fields and abandoned wells and until the method has been tried in a new area, either by making temperature observations in core drill holes or drelling wells, it will remain as a possibility and not as a proven fact.



TEMPERATURE AND STRUCTURE CROSS-SECTION
SHOWING DEPTH TO ISOTHERMAL SURFACES AND
THEIR RELATION TO THE FORAKER LS. AND LAYTON SS.
PLATE I-PART B



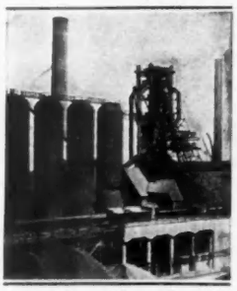
Wire Rope

. . . controlled at every step

Wickwire Spencer

Produces Ore . . .

Wickwire Spencer

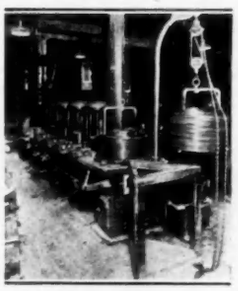


Smelts Metal . . .

Wickwire Spencer

Rolls Rods . . .

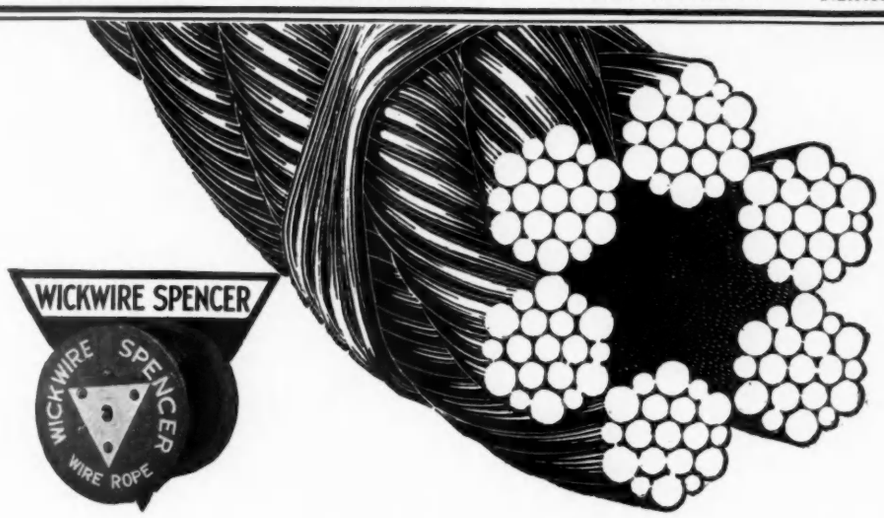
Wickwire Spencer



Draws Wire . . .

Wickwire Spencer

Makes Rope . . .



QUALITY is not developed in wire rope during any one of the many steps of manufacture. Each process, extremely technical in itself, must put into the rope an attribute that cannot be added before or after that particular operation. Wickwire Spencer, by controlling the entire manufacture of its rope, offers Wire Rope that is as fine as Wire Rope *can* be made.

Wickwire Spencer Steel Company, 41 East 42nd Street, New York City
Buffalo, Chicago, Detroit, Philadelphia, Worcester, Tulsa, 314 East Archer St., *Pacific Coast Headquarters:* San Francisco; *Branches and Warehouses:* Los Angeles, Portland, Seattle; *Export Sales Department:* New York City.

WIRE ROPE

by Wickwire Spencer

Send for our book. It is free and will prove of great value.

HIGH SPEED LOW COST - - - DRILLING

This is what all producers are shooting at. Many years' experience with extensive drilling activities has revealed the following to the Humble Oil & Refining Company:

Although the cost of lubricating drilling equipment appears to be an insignificant item on the cost sheet of a rig and is frequently overlooked —costs due to improper lubrication can mount to immense proportions, through lost time and replacing of equipment. Humble lubricants are specially designed to meet the needs of the producer.

HUMBLE

Reg. U. S. Pat. Off.

Makers of

Humble Steam Cylinder Oils	Humble General Machine Oils	Humble Gear Lubricants
Humble Gas Engine Oils	Humble Air Compressor Oils	Humble Axle Greases
Humble Diesel Engine Oils	Humble Special Lubricants	Humble Cup Greases

Humble Oil & Refining Company
HOUSTON, TEXAS

The Diesel Engine Design *for* Oil Production Work

By HOLLIS P. PORTER

THE object of this paper is to draw attention to the possible improvements to be made in the design, and the application of the Diesel oil engine to the work of producing petroleum oil, and in order to bring out the subject recourse will be taken to review some history of the engine and its use in this field to date.

In August of 1928 Mr. Porter wrote a report of an investigation on this subject, which was for the benefit of the officers of a major oil corporation. Later there appeared in periodicals several articles, which had been based upon the report. Also the manufacturers through whom the information was secured were given access to the report, and, as a result some action was taken by them toward following out suggestions which the report contained.

Some of the points brought out in the above referred to report may be summed up as follows:

The Diesel engine up until that time had been used very little in the production field of the oil business, although its use upon pipe lines was quite general.

There had been some drilling performed by a contracting firm for The Texas Company, at Electra and Vernon. A 90 H.P. multi-cylinder Diesel engine had been used to drill and set casing in a well 4500 feet deep. The cable tool method of drilling was employed. A few other isolated cases where the engine had been used in the field of production might be of record.

The early builders of the engine had started out to build a design for purely stationary power plant purposes, and the engine had been first put upon the market in large and heavy units which were too massive to be used in such work as is required in the oil fields; then the first cost of the massive units was much too great to compete with other prime movers such as gas and gasoline engines.

Mr. Porter is a member of the American Society of Mechanical Engineers, and has held the offices of chairman of the Mid-Continent section, delegate to the organization meeting of Engineering Council, and was a manager of the society for one term. He is also a member of the American Petroleum Institute.

This paper was presented before the American Society of Mechanical Engineers, Tulsa, January 15, 1932.

BEFORE starting out upon a new design it should be interesting to all and instructive to some to review the theory of the Diesel engine.

Dr. Rudolph Diesel, a German scientist, completed his first successful engine in 1897. The Diesel principle utilizes the heat due to compression to ignite atomized liquid fuel which is injected into an atmosphere heated by the work of the compression. The fuel is injected just as the compressor stroke of the piston is being completed. The air charge is taken in at low pressure (atmospheric) and compressed up to 400 to 500 pounds, and this compression heats the air to approximately 1000° to 1200° F. The fuel is gassified and ignited by the heat; it burns during the first part of the stroke, after which the hot gas continues to expand and perform work upon the piston until the exhaust port opens.

The Diesel engine requires no carburetor nor ignition system. It is manufactured to operate on both the four-stroke and the two-stroke cycles.

Principle of Operation

In a four-cycle engine, four strokes of the piston, or two revolutions of the crank shaft are required to complete the cycle of operations. The first stroke is admission, and the piston travels away from the head while the admission valve is open, and the cylinder is being filled with pure air. The second stroke is when the piston returns toward the head while all valves are closed, and the air in the cylinder is being compressed. The third stroke is when the piston travels away from the cylinder head the second time just after the fuel valve has opened for a short time and a charge of fuel has been injected into the hot atmosphere when burning of the fuel and the expansion of the gas takes place. The fourth stroke is when the piston travels toward the head for the second time while the exhaust valve is open and the burnt gases are being expelled from the cylinder. Thus it will be seen four strokes have been completed and the engine is ready to begin another cycle.

In the two-cycle engine, two strokes of the piston, or one revolution of the crankshaft are required to complete the cycle of operations. The piston travels away from the head while all valves are closed; fuel is injected and burns during the first part of the stroke, and gas expands. Near the end of the stroke the piston uncovers exhaust ports allowing burnt gas to escape and reducing their pressure to atmospheric. Just before the piston covers the exhaust ports on the return stroke air under light pressure enters through scavenging valve and blows gas out of cylinder. The piston starts on return stroke covers the exhaust ports, compresses the air in the cylinder, and thus the second stroke of the cycle is made as the piston approaches the cylinder head ready to repeat the cycle.

The Diesel engine should be designed so that it may either be directly connected or belted to the machine it drives. In the oil field, light weight power units are needed —a unit that can be moved from place to place even though it is to be substantially set each time. It must be self-contained and consideration should be given to all the conditions of operation from drilling and pumping to the generation of electricity for general purposes.

Big central power plants are not wanted in oil field operation. The development work begins with a rush, and changes take place rapidly. In only a few months after a new field is developed the demand for power is down to 50 per cent of the original maximum demand. The develop-

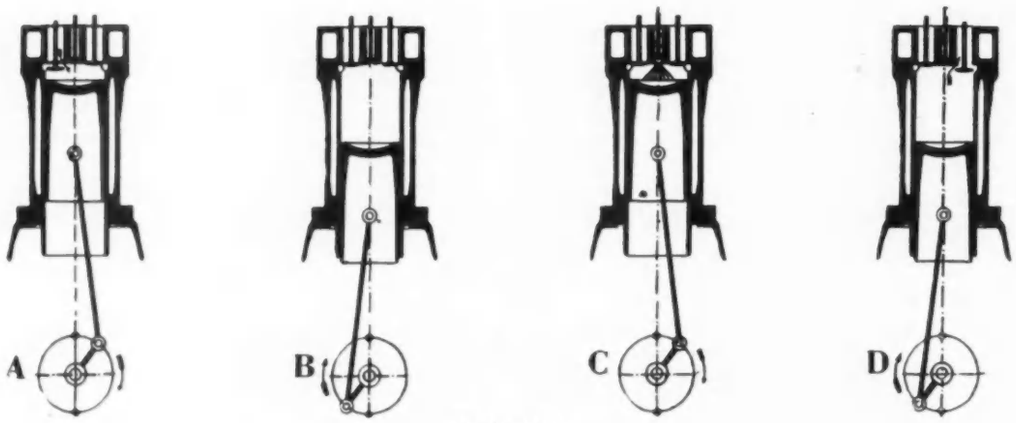


FIGURE 1

Illustration showing typical four cycle single acting engine. A. First stroke is admission; B. Second stroke is compression; C. Third stroke is ignition and expansion; D. Fourth stroke is exhaust

ment equipment is then moved to new fields and only a portion of the power units required during the peak load remain to serve in pumping the wells.

The ideal oil field Diesel engine should be self-starting, and for all sizes it should have a closed water circulating system, such as a coil in a cooling tower. A few of the smaller engines might use radiators. A radiator, however, is a source of great trouble on an oil field engine.

All engines used upon drilling wells and pumping wells must run at variable speeds. The slow speed when pumping or drilling should be half as fast as the high speed when cleaning out, bailing, etc. The engines should be controllable over a wide range of speed, so that it will not only do the variable work, but also furnish more or less power, depending upon the particular job it is doing.

Standardization is Needed for the Oil Field Work

There should be a standard cylinder size established. This has not been done by builders. It is suggested that standard cylinder sizes be adopted for the following units:

One-cylinder engine . ..... 40 horsepower
Two-cylinder engine . ..... 80 horsepower
Four-cylinder engine .....160 horsepower
Six-cylinder engine . .....240 horsepower

In considering these sizes, one must keep in mind the range of service the engine is to perform. The single-cylinder engine can be used for a pumping well, or a central power where the requirements range from 20 horsepower to 40 horsepower, and since the economy of the Diesel engine is very good at 50 per cent load, the one size rated at 40 horsepower will serve equally well upon either a 20 horsepower or a 40 horsepower load. Likewise the two-cylinder engine would be suited to any load from 40 horsepower to 80 horsepower, and thus we may continue to increase the number of cylinders to double the power capacity in each larger size until we arrive at a size as large as is practical and within the required limits as to being semi-portable.

By standardizing upon cylinder sizes the added advantage of interchangeable parts will be gained; and thus a small stock of parts would be required for maintenance, and a company using this universal design would be saved untold expense, to say nothing of delays in operation often incurred due to confusion where parts are not standard. All the parts of a 40 horsepower engine, excepting the base and crankshaft, would be interchangeable with all the larger units, up to the 240 horsepower.

Weight of Engine

The weight of an oil field engine should not be more than can be hauled by a good heavy truck, so that it can take the load over rough roads to undeveloped locations.

Many of the makes of Diesel engines weigh from 300 to 400 pounds per horsepower. These are the bulky, slow-speed engines used in central power houses. At the present time there is a rapid development toward lighter weight engines for marine use. There are several such engines designed which weigh 70 pounds to 110 pounds per horsepower. Another development is the Diesel engine designed for trucks and tractors. There is one such engine built by a German manufacturer, which is said to weigh less than 25 pounds per brake horsepower. In "Oil and Gas Power," published by the American Society of Mechanical Engineers for January-April period of 1928, is an article of much interest on Diesel engines for locomotives, and of experiments upon combustion chambers for high speed engines of this type.

In the article Mr. Kemper suggests that 1800 R.P.M. and a weight of three pounds per horsepower must be attained in designing the engine for aviation service. He refers to 300 to 600 R.P.M. and 25 pounds per horsepower as being the light engine as developed up to that time. In the consideration of the weight of the oil field engine, it will be advisable to make use of aluminum alloy castings for crank-cases and pistons, as it would seem necessary to keep under the allowable maximum weight of 40 pounds per horsepower. At 40 pounds per horsepower an engine of 240 Horsepower weighs 9600 pounds which is a good load, but one that can be hauled about the fields, as change in location becomes necessary.

Speeds

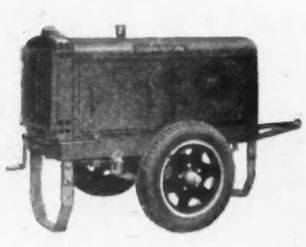
There are great differences in speeds of engines being manufactured. The heavier engines run at speeds from 150 to 300 R.P.M. and the high speed engines are designed for speeds ranging from 400 to 1000 R. P. M.

There are three speeds which might be considered, namely, 750, 900 and 1200. These speeds correspond with the synchronous speeds of electric motors and, since we desire a high speed engine to keep down the weight, it might also be an advantage to consider motor and generator speeds;

They're Here!-- The New WD Gas-Engine-Driven Arc Welders

The new G-E heavy-duty gas-engine-driven arc welder. Sizes from 200 to 600 amperes

The new welders are provided with removable weatherproof covers, with provision for locking



Various types of running gear are available. Here is a two-wheel, spring-mounted trailer with pneumatic tires

THIS new set—a combination of the well-known WD arc-welding generator and a Buda "Hivelo" gasoline engine operating at 1750 rpm.—has been designed, mechanically, for especially heavy duty.

The deep, rigidly welded bases, strong running gear, ample cooling capacity, extra-strong mechanical parts, and rubber-mounted, glass-shielded instruments are particularly adapted for the requirements of the construction field—tank farms, bridges, buildings, etc.—and for the severe requirements of pipe-line welding where the use of heavily coated electrodes may require voltages as high as 40 volts.

Investigate this new line of General Electric gas-engine-driven arc welders. For further information, ask your nearest G-E office or welding distributor for a copy of Descriptive Bulletin GEA-1543.

530-122

GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES

1200 is rather high for present day Diesel engines, but there are some makes running at 900, and probably more of them at 750. An engine designed to run at 900 R.P.M., but one that could also give satisfactory service at half this peed, would probably be the one to consider.

Fuel Required

The fuel generally used in Diesel engines is crude petroleum, distillates, and fuel oils. By preheating the fuel oil, it can be used quite successfully when the gravity is as low as 14 degrees A. P. I. The prime requisites of the fuel oils are that they are liquid enough to flow and to permit of atomization, and that they contain no water, sand or other material that will clog up the small spray ports of the injection nozzle.

A conservative estimate of the amount of fuel for each brake horsepower per hour required by the engine when operating at from 50 per cent to 75 per cent full load, is one-half pound of crude oil.

Estimating that a gallon of fuel oil weighs 7.8 pounds, or a barrel weighs 327½ pounds, and, that the average load imposed upon a 50 horsepower engine is 75 per cent, then one barrel of 42 gallons of fuel oil will be used in 17½ hours.

Lubrication

It has been said that fuel consumption of a Diesel engine is low, but the lubricant consumption is quite high. The amount of lubricating oil required depends entirely upon what kind of lubricating system is employed. The system which should be employed is one which feeds oil directly to all bearings, and which recycles the oil through a filter and a cooling coil. With such a system there should be a minimum consumption of lubricant.

Maintenance and Operation

It is generally agreed that it is necessary to have a man who has been experienced in handling internal combustion engines to handle and look after a Diesel engine, but any good engine man should readily gather the necessary understanding of the engine. The engine, if not over loaded and if carefully built of rugged design, should not require excessive repairs. Most all of the trouble laid to Diesel engines can be tracel to cases where the engine selected was too small for the load. Like the gas engine, it will not stand an over load.

General Conditions to be Met

In order to meet conditions of the field a multicylinder verticle high-speed engine will be required. One of rugged design with standard cylinder sizes and standard interchangeable parts. It should be the purpose to so design the engine that by increasing, or decreasing the number of cylinders the various sized units necessary to cover the whole field of power requirements may be met. For example, a single-cylinder engine for pumping a shallow, or an average sized well and increase the number of cylinders up to six for use in rotary drilling. In case it is desirable to increase the power above that of a six-cylinder unit it will be advisable to connect electric generators to two or more units and to operate them in synchronism. The power so generated can be used through electric motors.

Advantages

The advantages which should favor the use of this engine compared with other types of prime movers are as follows:

1. No magneto, nor ignition system is required. This eliminates the hazard of setting fire, reduces the chances of trouble in starting the engine, and insures quick action, as a Diesel engine can be started with compressed air and attain full speed in a few seconds.

2. Fuel required may be easily obtained by using crude petroleum produced in the field. The only requirements being that the fuel be clean and free from water. The amount of fuel is very small, a horsepower hour of service can be developed while consuming one-half-pound or less of fuel oil.

3. Water required for cooling jackets is low, as it is about the same as required by the gas engine and much less than required by the steam engine. This makes the engine desirable for drilling or general use in semi-arid regions and where water is scarce.

4. The engine can readily be converted into a gas engine by changing cylinder heads and a rearrangement of fuel mixing valves, and it makes a better gas engine than the regular designs, because it is a much more substantial unit than the commercial designs of gas engines.

5. A *centrally* located Diesel electric plant, where gas is not available, and where fuel and water are scarce, may be economical for general power purposes, both in development of a new field and operation after the field has been developed.

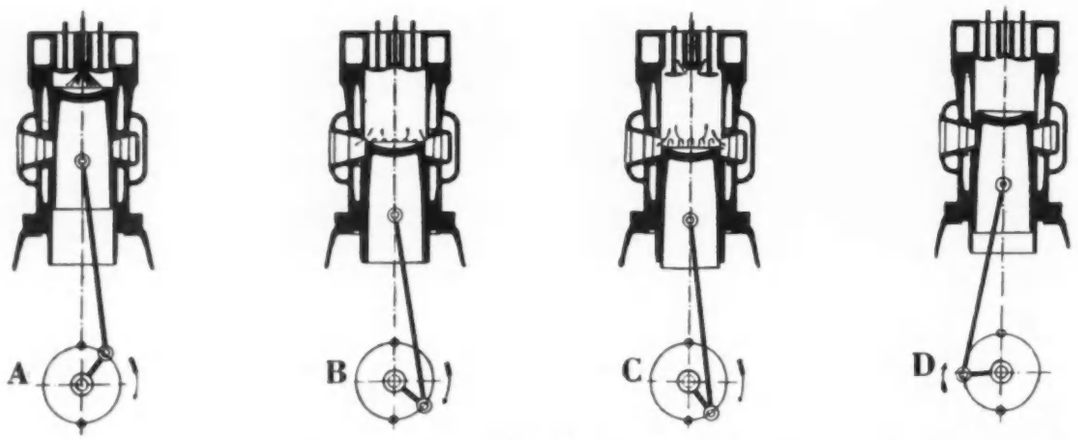


FIGURE 2

Illustration showing typical two cycle single acting engine. A. Ignition and expansion; B. Exhaust at end of first stroke; C. Scavenging takes place at beginning of return or com-compression; D. Compression stroke

LAY-SET SAVES YOU MONEY

BECAUSE YOU GET

30% TO 300% INCREASED SERVICE

In Lay-Set Preformed Wire Rope, strands and wires are pre-shaped so they lie normally together . . . as contrasted with non-preformed rope in which the strands are forced to lie in their helical shapes under stress.

DUE TO ELIMINATION OF INTERNAL STRESS . . . preformed wires retain their life and elasticity.

Remove a strand and note its perfect helical shape. Remove also a wire or two from the strand. The rope can then be re-assembled and you cannot tell which strand or wires were removed. Let us give you more reasons why Lay-Set Preformed Wire Rope saves you money.

Why we recommend and sell

PREFORMED WIRE ROPE

– a pertinent message to our customers –

● Continuous business with many thousands of our customers—some accounts dating back 50 and 60 years—is a true indication of Hazard's enviable reputation in the wire rope industry.

Hazard is the oldest wire rope company. We have been in business for 86 years. We believe we know wire rope.

We urge our customers to use LAY-SET Preformed Wire Rope because we know the experience of our customers who have changed from Hazard non-preformed wire rope to Preformed.

. . . They are getting from 30% to 300% increased service, depending upon the character of the service and the type of their equipment.

This has gained for us added confidence. For wire rope that lasts 30% to 300% *longer*, needs much less frequent replacement. This confidence is worth more to us than immediate sales. It means *more* customers—as our books show.

Hazard non-preformed wire rope may be entirely satisfactory. You may be receiving longer service from Hazard non-preformed wire rope than from other brands of wire rope also made of high quality wire. But you will get 30% to 300% longer service from Hazard LAY-SET Preformed Wire Rope.

HAZARD WIRE ROPE COMPANY
WILKES-BARRE, PENNSYLVANIA
1112 Fair Building, Fort Worth, Texas

New York Pittsburgh Chicago Denver Los Angeles San Francisco
Birmingham Philadelphia Tacoma

MAIL THIS COUPON TODAY FOR YOUR COPY OF

HAZARD WIRE ROPE COMPANY
Wilkes-Barre, Pennsylvania

Send me by return mail your booklet entitled, "12 Reasons Why You Save Money with Lay-Set Preformed Wire Rope." O. W.—3-25-32

Name .....

Address ..... MAIL TODAY

Company .....

(Write on margin type of service)

FEATURES

of the BREWSTER *Automatic* CORE BARREL

THIS automatic feature consists of a means of washing the inner barrel clean. The water is allowed to pass through this barrel until all foreign substances are washed out; when the operation of coring begins the ports in the inner barrel are automatically closed, allowing the fluid to pass around the inner barrel to the bit.

Another feature is the position of the valve in the top of the barrel, which is arranged to prevent the pressure from holding the ball down, so that in soft sand coring there is no resistance on the inner barrel, thus allowing soft sand cores to enter the barrel. A vent is provided to allow fluid and air to pass out of the inner barrel.

These features are very desirable and fill a long felt want where soft sand and other coring is necessary.

In either soft or hard formation a full recovery is assured. Made in all sizes and any length.

This barrel is equipped with split liners the same as Type C and Type M barrels.

Patent No. 1,505,346 *Automatic Core Barrel*

Type "M" Cutter Head

Barrel equipped with Roller Bit

The Brewster COMPANY~INC.
Shreveport, Louisiana

BUY FROM YOUR SUPPLY HOUSE

Warehouses: The Iverson Specialty Co., Oklahoma City, Phone 2-2833; The Brewster Houston Store, 2000 Harrington St., Capitol 2031. *Export Distributors:* Acme Well Supply Co., Inc., 136 Liberty St., New York City.

By use of the Type M Bit Body ROLLER CUTTER HEADS can be used with the Perfection Core Barrel.

Markets • Production • Crude Prices

H. J. STRUTH, *Staff Economist, Houston, Texas*

Production Moves Up; East Texas Exceeds Allowable

A further slight increase in daiy average crude production was recorded last week, principally as a result of a further upturn in output of East Texas. National daily average production rose 11,600 barrels last week, to 2,157,200 barrels. East Texas production showed an increase over the preceding week of 5750 barrels, bringing the output of the field up to 329,350 barrels a day. This is in excess of the new allowable of 325,000 barrels by 4350 barrels a day. The reason for the increase above allowable is accounted for by the fact that the new proration order of the Texas Railroad Commission was not effective until March 16, prior to which each well was allowed a maximum output of 75 barrels a day. With the new order now in effect, it is practically certain that production will be maintained within the limitation order through succeeding weeks.

Reported demand for crude continues favorable in practically all sections and stocks are not being increased to any material degree anywhere except California. There, production continues to exceed market demand, resulting in building up the already large surplus supply. Production of California increased again last week to the extent of 1700 barrels. This brought daily production of the state up to 508,000 barrels, or 52,000 barrels more than the allowable. The seriousness of continued over-production is shown by the fact that Elwood and Long Beach have continued to produce far more than their allotted share of state requirements and the effect seems to be working a hardship upon operators in other fields of California. This situation, combined with sentiment against the Sharkey bill, has somewhat complicated the outlook for the crude market in California. Obviously, as long as production continues to exceed market requirements there is little reason to look for a change for the better in market values. As it is, California operators will do well to maintain existing prices for crude.

Mid-Continent Continues Improvement

The situation in the Mid-Continent continues to reflect improvement, with the possibility that crude prices may show some upward revisions in the near future. Refined oil prices are showing strength and production of both crude and refined oils is being maintained in a state of practical balance with market requirements. Oklahoma and Kansas production increased only slightly last week, although the indicated market demand apparently caused the withdrawal of some oil from storage. Refiners in North Texas have also shown a tendency toward firm market quotations, with the result that the margin of refined products over posted crude prices has increased to some extent. While prices of refined products will obviously have to attain higher levels before there can be a justifiable increase in crude prices, everything seems to point to a continuation of market improvement in the refined oil situation. If rising refined oil prices are sustained by a balanced supply situation, it is believed that higher crude prices will be realized before long. Production of Texas, outside of the Gulf Coast, increased last week to the extent of 5650 barrels, the increase being accounted for by higher production in East Texas. Gulf Coast production showed a decline of 800 barrels a day. North Louisiana and Arkansas also recorded declines of 1000 and 50 barrels, respectively.

Eastern Output Up

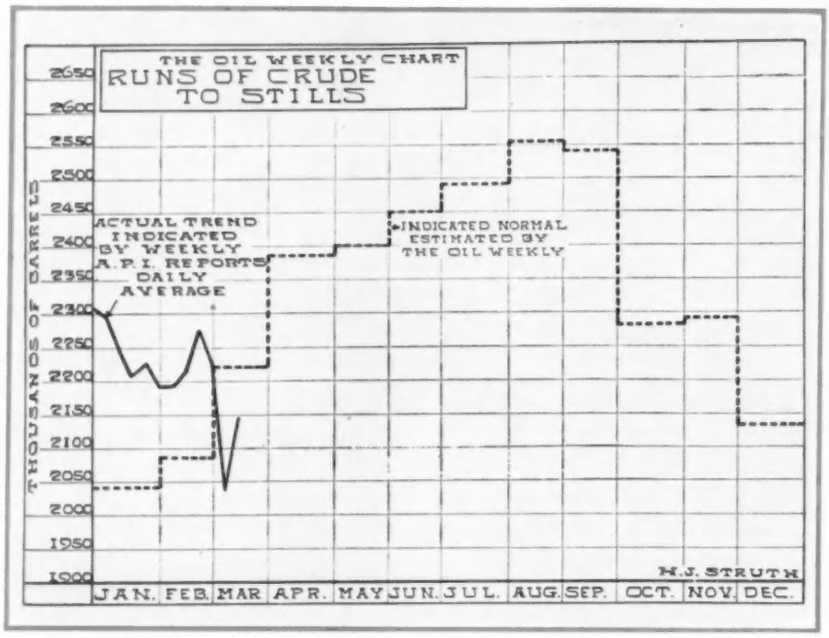
Eastern states reported an increase in production last week of 5950 barrels a day, although production in the preceding week had shown a decline of 12,150 barrels. Rocky Mountain production was off 1450 barrels a day.

Refined oil prices in the Eastern states have shown practically no change, failing to bear out the improved situation revealed in the Mid-Continent section. It is anticipated, however, that heavy spring demand for gasoline in the east will readily create a better market situation. All indications seem to point to a gradual upward movement in the refined oil market that will undoubtedly be reflected by better prices throughout practically all refining sections in the very near future. This is highly encouraging to the producer and indicates that he may also be rewarded soon with an improved price structure.

Gasoline Stocks Up 750,000 Barrels

Gasoline stocks turned sharply upward last week, although runs to stills were at practically the same rate as in the preceding week. An increase in stocks of 750,000 barrels reflects a temporary reversal in the rate of sales recorded in the preceding two weeks. Bad weather conditions seem to offer the best excuse for the increase. Runs to stills were maintained at a daily rate of about 2,147,000 barrels, comparing with 2,144,000 barrels in the preceding week. There seems to be every reason why runs should be reduced, temporarily at least, to a figure comparing favorably with that recorded during the week ending March 5. When runs were reduced to 2,036,000 barrels, stocks of gasoline showed their first decline since November 14. Refiners in the Mid-Continent area are confident of an upturn in gasoline demand at an early date and feel that present runs will shortly be inadequate to care for market requirements.

In view of persistent reports to the effect that jobbers' stocks of gasoline are considerably below indicated necessary working requirements, it is believed that refinery shipments will shortly show a material increase, accompanied by successive withdrawals from inventories. With this outlook, it is apparent that market prices will continue to move upward. Gasoline stocks as of March 19 were reported to the American Petroleum Institute as aggregating 46,428,000 barrels, against 45,661,000 barrels on March 12.



Continued Disregard of Proration Quotas Causes California Unrest

Excesses in several California fields has added to the unrest of operators who have been hewing to the line in other fields. Elwood, Long Beach, Santa Fe Springs and Playa del Rey have been seriously over their allowables. Elwood produced more than 50 per cent above its allowable during February and has been over during March. Long Beach is producing about 80,000 barrels daily, as against an allowable of 57,500 barrels, and has been over its allotment for a long time. The Dominguez field has been over its allowable, due to recent completions in the deep zone. Most of the settled fields are within their allotments.

The situation at Elwood has not received much publicity, but many operators have grumbled at the excesses in this field. The allowable is 10,900 barrels, but production has been exceeding 16,500 barrels daily. The field was advertised for a while as the perfect curtailment example.

Arguments for and against the Sharkey bill are becoming hotter as the special election on May 3 draws near. The

Crude Runs to Stills, Gasoline Stocks and Gas and Fuel Oil Stocks

Report for Week Ending March 12, 1932

(Figures in Barrels of 42 gallons each)

District—	Potential Capacity (Daily) Total	Potential Capacity (Daily) Reporting	Per Cent	Crude Runs to Stills Total	Crude Runs to Stills Daily Average	Crude Runs to Stills Per c't Operated	Gasoline Stocks (see note below)	Gas & Fuel Oil Stocks
East Coast	633,700	633,700	100.0	2,976,000	425,100	67.1	6,708,000	6,293,000
Appalachian	149,600	137,400	91.8	629,000	89,900	65.4	1,810,000	1,149,000
Ind., Ill., Ky.	436,300	431,500	98.9	1,887,000	269,600	62.5	5,887,000	4,224,000
Okla., Kans., Mo.	485,700	435,200	89.6	1,521,000	217,300	49.9	3,774,000	3,091,000
Texas	838,200	765,400	91.3	3,316,000	473,700	61.9	8,913,000	9,569,000
Louisiana-Arkansas	233,100	230,500	98.9	1,006,000	143,700	62.3	1,688,000	3,981,000
Rocky Mountain	160,900	143,800	89.4	215,000	30,700	21.3	1,965,000	671,000
California	914,500	888,100	97.1	2,896,000	413,700	46.6	14,916,000	96,045,000
Total March 12	3,852,000	3,665,600	95.2	14,446,000	2,063,700	56.3	45,661,000	125,023,000
Total March 5	3,852,000	3,665,600	95.2	13,778,000	1,968,300	53.7	45,429,000	126,175,000
Total March 14, 1931	3,730,100	3,571,200	95.7	16,201,000	2,314,400	64.8	*45,271,000	127,358,000
Texas and Louisiana Gulf Coastal figures shown below are included in the totals of their respective districts.								
Texas Gulf Coast	532,500	531,500	99.8	2,664,000	380,600	71.6	7,134,000	6,849,000
Louisiana Gulf Coast	147,500	147,500	100.0	670,000	95,700	64.9	1,551,000	3,302,000

NOTE: Stocks at refineries, except in California district, which include stocks of finished gasoline and engine distillate at refineries, water terminals and sales distributing stations and amounts in transit thereto.

*This figure is not entirely comparable with current stocks due to revisions made since original publication of this figure, for which revisions the basic information is not available by weeks. If it were possible to have made the revision, the new figure would reflect somewhat lower stocks.

HOW LAST WEEK'S DAILY AVERAGE PRODUCTION COMPARES WITH ALLOWABLE QUOTAS AND CURRENT DEMAND

State—	Allowable or Economic Limit	Indicated Current Demand	Daily Average Last Week	Added to or Withdrawn from Storage (Estimated)	Daily Average Since Jan. 1	Indicated Excess or Shortage Since Jan. 1
Arkansas	38,000[1]	43,000	34,150	—8,850	33,996	—711,250
California	456,000[2]	465,000	508,000	+43,000	504,635	+3,131,200
Kansas	90,000[1]	100,000	99,600	—400	99,552	+427,450
Louisiana	54,000[1]	63,000	53,350	—9,650	56,197	—537,400
Oklahoma	410,000[3]	425,000	421,150	—3,850	424,846	+447,150
Texas	818,000[1]	840,000	845,600	+5,600	838,232	—135,150
Balance of U. S.	202,000[1]	206,000	195,350	—10,650	202,079	—249,650
Total	2,068,000	2,142,000	2,157,200	+15,200	2,159,537	+2,372,350

[1]Economic limit based on data compiled by The Oil Weekly.
[2]Allowable set by California Proration Committee.
[3]Allowable set by Oklahoma Corporation Commission

smaller independents are fighting the measure on the ground that it creates a state monopoly out of the oil industry. The majors and larger independents insist that it will bring supply and demand together through proper restraint.

No change in crude prices is expected. Spot oil is slightly more plentiful and refiners are getting all they need at somewhere near the posted prices. As long as stocks are being increased, higher crude prices are out of the question. Some improvement in the demand for certain grades of heavy oil has been noted, but this has been offset in a decreased demand for some grades of the lighter oil. This shift in demand has been caused by the gradual change toward cracking at some of the largest refineries in the state.

The major companies are holding to the theory that they should buy only oil produced within the allowables set by the umpire and committees. A few years ago they bought all oil offered, with the view of controlling the prices of refined products. They are now so busy with their own affairs that they are willing to let the surplus go.

Cracked Gasoline Production

Report for Week Ending March 12 ,1932

(Barrels of 42 gallons)

	Potential Charging Capacity Total	Daily Reporting	%	Production Total	Daily Average
East Coast	261,300	236,300	94.1	578,000	82,600
Appalachian	56,300	54,100	96.1	194,000	27,700
Ind., Ill., Ky.	330,400	315,400	95.5	549,000	78,400
Okla., Kansas, Mo.	237,800	219,500	92.3	280,000	40,000
Texas	450,800	436,200	96.8	632,000	90,300
Louisiana-Arkansas	112,400	112,400	100.0	222,000	31,700
Rocky Mountain	99,900	98,400	98.5	78,000	11,200
California	190,800	190,800	100.0	280,000	40,000
Total March 12	1,739,700	1,663,100	95.6	2,813,000	401,900
Total March 5	1,739,700	1,663,100	95.6	2,877,000	411,000
Total Mar. 14, 1931	1,589,600	1,497,500	94.2	2,853,000	407,600
The Texas and Louisiana Gulf Coastal figures shown below are included above in the totals of their respective districts.					
Texas Gulf Coast	352,400	347,400	98.6	492,000	70,300
La. Gulf Coast	77,000	77,000	100.0	164,000	23,400

Imports of Petroleum

(Barrels of 42 gallons)

	Week Ended March 12	Week Ended March 5
AT ATLANTIC COAST PORTS—		
Baltimore	170,000	.....
Boston	132,000	58,000
New York	788,000	[1]941,000
Philadelphia	339,000	178,000
Others	343,000	[1]217,000
Total	1,772,000	1,394,000
Daily Average	253,143	199,143
AT GULF COAST PORTS—		
Galveston District	64,000	.....
New Orleans and Baton Rouge	.....	193,000
Port Arthur and Sabine District	.....	.....
Tampa	.....	.....
Total	64,000	193,000
Daily Average	9,143	27,571
AT ALL UNITED STATES PORTS—		
Total	1,836,000	1,587,000
Daily Average	262,286	226,714
Daily Average Four Weeks Ended	271,857	256,393
Distribution of Total Imports is as follows:		
Crude	1,072,000	1,093,000
Gasoline	165,000	.....
Gas Oil	.....	[1]35,000
Fuel Oil	599,000	[1]459,000
Total	1,836,000	1,587,000

[1] Revised.

California Oil Receipts

(Barrels of 42 gallons)

	Week Ended March 12	Week Ended March 5
AT ATLANTIC COAST PORTS—		
Baltimore	.....	.....
Boston	.....	.....
New York	113,000	.....
Philadelphia	.....	.....
Others	.....	.....
Total	113,000	.....
Daily Average	16,143	.....
AT GULF COAST PORTS—		
Total	.....	.....
Daily Average	.....	.....
AT ATLANTIC AND GULF COAST PORTS—		
Total	113,000	.....
Daily Average	16,143	.....
Daily Average Four Weeks Ended	15,250	19,517
Distribution of Total California Oil Receipts is as follows:		
AT ATLANTIC COAST PORTS—		
Gasoline	113,000	.....
Total	113,000	.....

United States Daily Average Production

1931	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
January	452,000	106,350	511,050	188,850	41,100	50,700	110,300	96,700	535,700	2,092,750	64,874,450
February	473,750	114,450	523,700	185,600	43,950	49,950	109,800	100,100	527,300	2,128,600	59,600,450
March	531,900	110,550	585,000	177,950	40,250	47,550	108,800	95,400	528,100	2,225,500	68,990,850
April	543,650	109,250	723,050	185,850	39,050	47,000	111,500	95,500	527,350	3,382,200	71,465,750
May	561,950	107,400	767,200	185,950	39,200	46,650	111,250	97,500	534,150	2,451,250	75,975,950
June	556,850	103,150	828,250	170,100	36,500	44,900	108,950	97,950	520,300	2,466,950	74,009,750
July	527,950	100,000	912,250	157,850	33,650	41,400	107,600	94,400	517,900	2,493,000	77,282,700
August	306,150	101,900	976,800	153,550	30,400	37,650	109,600	92,900	510,900	2,319,050	71,890,200
September	261,050	104,600	752,250	149,950	29,600	38,000	117,400	92,250	505,550	2,050,650	61,518,950
October	423,600	103,950	865,800	153,500	29,200	37,750	121,600	93,950	503,800	2,333,150	72,327,750
November	541,250	104,750	855,550	158,850	29,300	37,650	124,300	93,950	503,050	2,448,650	73,460,150
December	534,650	105,500	795,500	153,550	27,850	35,100	124,500	92,150	503,000	2,371,800	72,525,700
1932											
January	439,250	99,400	735,450	141,050	28,850	34,250	123,050	82,800	505,900	2,190,000	67,890,550
February	412,750	99,300	715,600	140,100	28,400	33,650	118,200	83,600	502,500	2,134,100	61,888,700
March 5	418,600	101,600	714,800	137,500	27,900	34,000	119,600	84,750	502,100	2,140,850	14,985,950
March 12	419,300	99,750	732,550	134,300	28,250	34,200	107,450	83,400	506,300	2,145,600	15,019,200
March 19	421,150	99,600	738,200	133,500	27,250	34,150	113,400	81,950	508,000	2,157,200	15,100,400
Increase	1,850	.....	5,650	.....	.....	.....	5,950	.....	1,700	11,600	81,200
Decrease	.....	150	.....	800	1,000	50	.....	1,450	.....	.....	.....

Last Week's Daily Average Production by Districts

TEXAS	For Week Ending Mar. 19	Previous Week
Panhandle	47,050	47,700
North Texas	50,050	47,250
West Central Texas	24,700	24,450
West Texas	179,800	182,100
East Central Texas	55,100	55,200
East Texas	329,350	323,600
Southwest Texas	52,150	52,250
Texas Gulf Coast	107,400	107,750
TOTAL TEXAS	845,600	840,300
OKLAHOMA	421,150	419,300
CALIFORNIA	508,000	506,300
KANSAS	99,600	99,750

*Includes Michigan.

LOUISIANA	For Week Ending Mar. 19	Previous Week
North Louisiana	27,250	28,250
Louisiana Gulf Coast	26,100	26,550
TOTAL LOUISIANA	53,350	54,800
Arkansas	34,150	34,200
MOUNTAIN STATES		
Wyoming	34,500	37,000
Montana	6,500	6,150
Colorado	3,500	3,400
New Mexico	37,450	36,850
TOTAL MOUNTAIN STATES	81,950	83,400
*Eastern States	113,400	107,450
TOTAL UNITED STATES	2,157,200	2,145,600

Summarized Review of Field Results

State—	Completions This week	Completions Last week	Oil Wells This week	Oil Wells Last week	Gas Wells This week	Gas Wells Last week	Failures This week	Failures Last week	Initial Prod. This week	Initial Prod. Last week
Arkansas	1	0	1	0	0	0	0	0	35	0
California	4	3	0	2	0	0	4	1	0	4,560
Illinois	1	0	0	0	1	0	0	0	0	0
Indiana	8	1	1	0	1	1	6	0	40	0
Kansas	4	7	2	4	1	1	1	2	725	1,300
Kentucky	5	10	4	6	0	2	1	2	145	173
Louisiana	12	4	1	2	0	1	11	1	2,215	275
Michigan	2	1	2	1	0	0	0	0	2,890	1,400
Mississippi	0	2	0	0	0	1	0	1	0	0
New Mexico	0	2	0	2	0	0	0	0	0	2,240
New York	6	0	6	0	0	0	0	0	63	0
Ohio	8	13	1	4	2	3	5	6	6	252
Oklahoma	18	31	12	9	3	5	3	17	14,155	727
Pennsylvania	41	0	26	0	10	0	5	0	180	0
Texas	129	116	99	107	2	2	28	7	671,094	878,185
West Virginia	5	8	0	3	4	5	1	0	0	20
Miscellaneous	3	0	1	0	1	0	1	0	609	0
Total	247	198	156	140	25	21	66	37	692,157	889,132
Increase		49		16		4		29	.....	
Decrease		..		..		..		..	196,975	

Comparison of Permits Granted for New Wells

	For Week Ending Mar. 19	Previous Week	This Week 1931	Total This Month	This Month 1931	Total This Year	Total This Date Last Year	1931 Year Total
Arkansas	0	0	0	1	4	2	16	34
California	2	10	10	20	32	58	89	342
Louisiana	5	5	7	19	27	82	89	309
Kansas	8	12	3	33	16	111	123	475
Oklahoma	21	18	18	60	78	188	269	842
Texas	146	126	91	360	314	1,276	1,038	6,961
Total	182	171	129	493	471	1,717	1,624	8,963

Tank Wagon Gasoline Market Improving

Gasoline tank wagon prices are beginning to reflect improvement in the wholesale market in the Mid-Continent. Large distributing companies in the East have announced slight advances in tank wagon quotations and there prevails a feeling that advances will be more or less general within the next two weeks. Along with improvement in the gasoline market has been a moderate advance in prices of fuel oil and distillates and a tendency on the part of natural gasoline manufacturers to demand higher prices for their products. The main stimulus to better prices is the strength being exhibited by the tank car market. Kerosene has shown little change but expectations of increased demand from rural districts, accompanying spring plowing with tractors, appears to justify the belief that better prices will shortly be in evidence for this product also.

Motor Registrations Off Two Per Cent

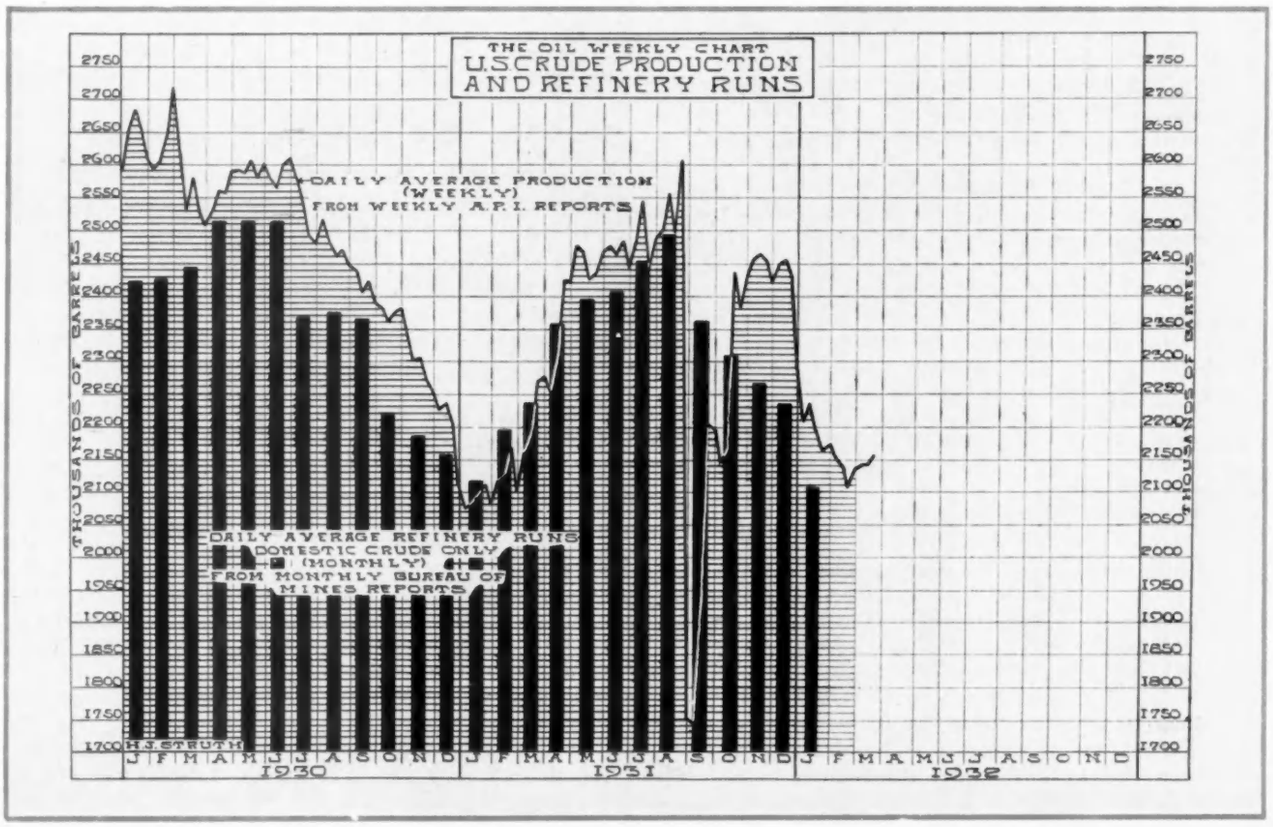
Registrations of all motor vehicles in the United States declined at the close of 1931 under 1930 to the extent of two per cent, according to figures compiled by "Automotive Industries." Total registrations as of December 31, 1931, were 26,124,319, against 26,657,072 on December 31, 1930. Passenger cars registered totaled 22,670,981, against 23,183,241 the preceding year. Motor truck registrations totaled 3,378,214, against 3,392,581 the preceding year. Bus registrations were 75,124, against 81,250 in 1930. Increases in registrations were recorded by California, Connecticut, District of Columbia, Maine, Maryland, Nevada, New Jersey, New York, Ohio, Oregon, Rhode Island, Virginia and Wyoming.

The largest declines were New Mexico, 16.5 per cent and Arkansas, 14 per cent.

Mid-Continent Refined Prices Hold Against Slackened Buying

Although higher prices prevailed throughout the past week a slight general sag was noticed in the Mid-Continent area. This condition, which is not expected to continue for more than a short time, was brought about by a combination of factors. Lack of demand caused by inclement weather during the early part of the week, rush shipments previous to the increase in shipping rates on March 15, slight increases in runs to stills, and liquidation of stocks by shut down refineries were given as the principal factors which were contributory to the lull in an ascending condition which had been evident over the past few weeks. Brokers prices were thought to be slightly too high to promote buying in appreciable quantities. Due to colder weather and other conditions the market had changed from a seller's to a buyer's market, which usually results in shading of prices.

The gasoline market probably will show but little further advance until crude oil price increases are forthcoming. Followers of the Mid-Continent situation were predicting increased postings for Mid-Continent crude by or shortly after April 1, based on the gaining strength of the refined products market, but the turn of the past week may delay any action of crude oil purchasers for two or three weeks,


THE OIL WEEKLY CHART
U.S. CRUDE PRODUCTION AND REFINERY RUNS
DAILY AVERAGE PRODUCTION (WEEKLY) FROM WEEKLY A.P.I. REPORTS
DAILY AVERAGE REFINERY RUNS DOMESTIC CRUDE ONLY (MONTHLY) FROM MONTHLY BUREAU OF MINES REPORTS
THOUSANDS OF BARRELS
H.J. STRUTH
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1930
1931
1932

depending upon the condition which obtains during the next few days. The return of good weather with an attendant increased plus elimination of inventories of small shut down refineries should tend to strengthen the market to a considerable extent during the coming week; 26-70 natural gasolines showed an increased firmness at 1¾ to 2 cents, an advance of one-fourth to one-half cent over the quotations of the preceding week.

Humble Buys Strake Corporation Holdings in Montgomery County

Houston, Texas.—Further development will be started at once in the new producing area near Conroe, Montgomery County, and the locality will be systematically explored through a sustained drilling program involving a series of tests. Such exploration work has been assured through consummation of a deal in which Humble Oil & Refining Company acquired all holdings of Strake Oil Corporation, including the producing oil well, South Texas Development Company 1, and a surrounding lease block of 4368 acres.

The properties included in the transaction comprise all leases in the area upon lands of South Texas Development Company, and those leases embrace practically all of the Theodore Slade, Ransom House, Joseph House, Alex McCowan, A. M. Folk and T. C. Howell Surveys.

For those holdings Strake Oil Corporation agreed to accept $500,000 in immediate cash and deferred cash payments, $3,500,000 out of one-fourth of the first oil produced, and an over-riding royalty, obligating itself at the same time to finance and carry out the drilling of two tests on the block. Humble Oil & Refining Company likewise assumed the obligation of drilling two wells to contribute toward prompt testing of the potentialities of the district, those tests to be drilled alternately with those of Strake Oil Corporation, with the latter starting the series.

In event Humble Oil & Refining Company decides after completion of the exploration program that it will continue development of the properties it will then enter upon an active exploitation program, involving extensive drilling, under provisions of the deal with Strake Oil Corporation; and it is anticipated that Humble Oil & Refining Company will further a development and production plan similar to that which it has carried out in the Sugarland field, Fort Bend County, where the productive area was rapidly drilled, with a re-pressuring system being provided in the meantime, so that during practically all the history of the field there has been maintenance of pressure through conservation of gas by forcing produced gas back into the oil sand. Since the Montgomery County leases are in a large block, with practically all under ownership of a single fee owner, there would exist particularly favorable conditions for a repressuring program there.

If Humble Oil & Refining Company is not impressed favorably enough with the preliminary exploration to go ahead with the contemplated plan, however, it will turn the leases back to Strake Oil Corporation.

G. W. Strake of Houston, who drilled the Montgomery County discovery well, is president of Strake Oil Corporation, and owns approximately 70 per cent of its stock, comprising 100,000 shares, no par value; and there are only a few other stockholders, including Albert Plummer and D. B. McDaniel, both of Houston, each owning 10 per cent of the stock. W. J. Pfiffner, Jr., Houston, is vice-president of the company, and J. N. Powers, also of Houston, is secretary-treasurer. The concern maintains offices in the Gulf Building, Houston.

It was in 1929 that G. W. Strake obtained the lease block south of Conroe on which he drilled the discovery well. Late in 1931 when it appeared that a new field had been opened by the wildcat test he divided his holdings of over 8000 acres of leases, organizing Strake Oil Corporation, which became owner of the above described properties, and retaining individually approximately 4000 acres of leases to the south of the properties of the corporation. Strake still owns the latter properties.

In addition to their interests in Strake Oil Corporation, Albert Plummer and D. B. McDaniel also own two leases within 1500 feet of the discovery well, one being a 60-acre tract and the other a 40-acre lease.

Producing from total depth of 4991 feet, with 67 feet of screen set on bottom, and flowing through drill pipe which was not removed from the well and which is serving as tubing, the discovery well is still yielding around 100 barrels of 58 gravity oil daily, and it is showing 2050 pounds pressure on the drill pipe. The well was completed December 13, 1931.

The Texas Company Paying $210,000 for Victoria County Section

San Antonio, Texas.—Interest which has been developed in the McFadden district of Victoria and Refugio Counties is reflected in the purchase early this week of a lease on 637 acres out of the McFadden ranch by The Texas Company for $75,000 in cash and $135,000 out of oil.

The tract comprises the entire Gray Survey, Victoria County, and lies approximately mid-way between The Texas Company's McFadden 3, which is producing from 5828-5832 feet, and Humble Oil & Refining Company's M. V. O'Connor 1, an oil producer from 4127-4155 feet; those two producing wells being approximately four miles apart.

Humble Sells Pumping Properties In Powell Field to Olsen Brothers

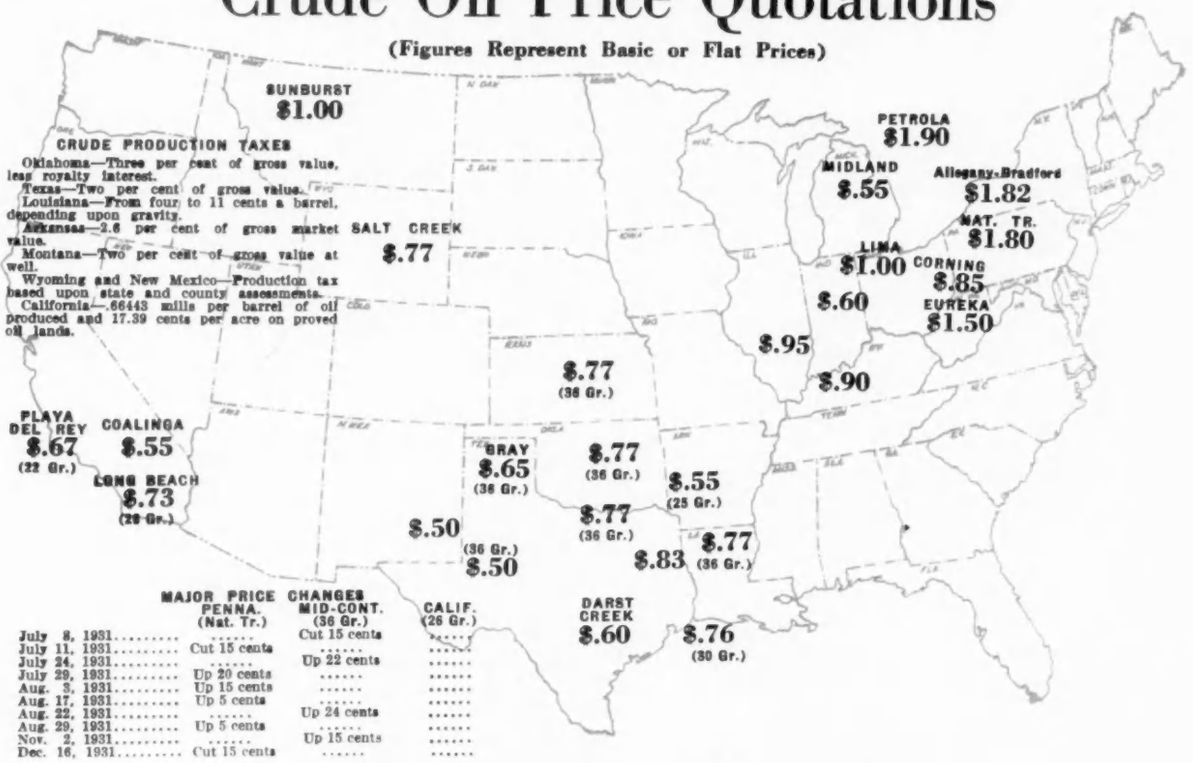
Houston.—Humble Oil & Refining Company March 22 confirmed sale of its Powell field properties in Navarro County to Olsen Brothers, Fort Worth, Texas. These properties embrace about 500 acres which are yielding 800 barrels per day. All lease equipment, such as tanks, pumps and miscellaneous properties, were included in the transaction. The amount of cash involved was not announced.

Consolidated Oil Corporation Stock Will Be Issued March 31

Independence, Kansas.—Stockholders of Prairie Oil & Gas Company and of Prairie Pipe Line Company as of March 25 have been notified by officials of the two companies that on or after March 31 they will receive for their stock in these companies shares of stock in Consolidated Oil Corporation. Terms of the merger provide for transfer on a share for share basis for holders of Prairie Oil & Gas Company stock, whereas those holding pipe line company stock will receive 10 shares in the new corporation for each 14 shares of Prairie Pipe Line Company. Holders of Sinclair Consolidated Oil Corporation stock will receive share for share in the new corporation, according to the announcement.

Crude Oil Price Quotations

(Figures Represent Basic or Flat Prices)



MAJOR PRICE CHANGES

	PENNA. (Nat. Tr.)	MID-CONT. (36 Gr.)	CALIF. (26 Gr.)
July 8, 1931	.....	Cut 15 cents	.....
July 11, 1931	Cut 15 cents	.....	.....
July 24, 1931	.....	Up 22 cents	.....
July 29, 1931	Up 20 cents	.....	.....
Aug. 3, 1931	Up 15 cents	.....	.....
Aug. 17, 1931	Up 5 cents	.....	.....
Aug. 22, 1931	.....	Up 24 cents	.....
Aug. 29, 1931	Up 5 cents	.....	.....
Nov. 2, 1931	.....	Up 15 cents	.....
Dec. 16, 1931	Cut 15 cents	.....	.....

Official Postings and Differentials

(Revised to March 22, 1932)

California: (Effective June 19, 1931.)

Signal Hill, Seal Beach and Alamitos Heights: 14 to 22.9 gravity 65 cents; 23 gravity 67 cents with differential to two cents for each degree upward. Top price for Signal Hill, 30 gravity, 81 cents; top price Seal Beach and Alamitos Heights, 27 gravity, 75 cents.

Huntington Beach: 14 to 21 gravity, 65 cents; 22 gravity, 66 cents with differential of two cents for each degree upward. Top price, 27 gravity, 76 cents.

Inglewood: 14 to 19.9 gravity 65 cents; 20 gravity 66 cents with differential of two cents for each degree upward. Top price, 25 gravity 76 cents.

Playa Del Rey: 19 to 20.9 gravity 65 cents with differential of one cent for each degree upward. Top price, 25 gravity, 70 cents.

Olinda and Brea Canyon: 14 to 19.9 gravity 65 cents; 20 gravity 66 cents; 21 gravity 67 cents; 22 gravity 68 cents with differential of two cents for each degree upward. Top price, 28 gravity, 80 cents.

Coyote Hills: 14 to 22.9 gravity 65 cents; 20 gravity 66 cents; 21 gravity 67 cents with differential of two cents for each degree upward. Top price, 28 gravity, 79 cents.

Santa Fe Springs: 24 to 26.9 gravity 65 cents; 27 gravity 68 cents; 28 gravity 71 cents; 29 gravity 73 cents; 30 gravity 75 cents; 31 gravity 78 cents; 32 gravity 80 cents; 33 gravity 83 cents; 34 gravity 85 cents; 35 gravity and above 87 cents.

Whittier, La Habra and Monsebello: 65 cents a barrel.

Torrance: 14 to 21.9 gravity 65 cents with differential of one cent for each degree to 25 gravity and two-cent differential for 25 gravity. Top price, 25 gravity, 70 cents.

Richfield: 14 to 20.9 gravity 65 cents; 21 gravity 66 cents with differential of two cents for each degree upward. Top price, 25 gravity, 74 cents.

Elwood: 33 gravity 79 cents; 34 gravity 81 cents with differential of three cents for each degree upward. Top price, 36 gravity, 87 cents.

Newhall, McKittrick and Kern River: 55 cents a barrel.

Midway-Sunset, Elk Hills and Buena Vista Hills: 14 to 21.9 gravity 55 cents; 22 gravity 56 cents; 23 gravity 58 cents; 24 gravity 61 cents; 25 gravity 64 cents; 26 gravity 66 cents; 27 gravity 68 cents; 28 gravity 71 cents; 29 gravity 74 cents; 30 gravity 76 cents.

Lost Hills: 14 to 20.9 gravity 55 cents; 21 gravity 57 cents; 22 gravity 59 cents; 23 gravity 60 cents; 24 gravity 62 cents; 25 gravity 64 cents; 26 gravity 66 cents; 27 gravity 67 cents; 28 gravity 69 cents; 29 gravity 71 cents; 30 gravity 72 cents.

Coalinga: 14 to 24.9 gravity 55 cents; 25 gravity 57 cents.

Wheeler Ridge: 55 cents a barrel.

Athens, Dominguez and Rosecrans: 24 to 24.9 gravity 69 cents with differential of two cents for each degree upward. Top price, 34 gravity, 89 cents a barrel.

Oklahoma, Kansas, North Texas (Effective January 8, 1932).

Below 29 gravity; 61 cents, with differential of 2 cents for each degree to 40 gravity and above which is posted at 85 cents.

Texas Panhandle: (Effective November 2, 1931)

Gray County: Below 35 gravity: 61 cents, with differential of 2 cents for each degree to 40 gravity and above which is posted at 73 cents.

Carson and Hutchinson Counties: Below 35 gravity; 56 cents with differential of 2 cents for each degree to 40 gravity and above which is posted at 68 cents.

West Texas: (Effective November 2, 1931).

Crane-Upton, Crockett, Ector, Howard-Glasscock, Pecos and Winkler Counties, Texas and Lea County, New Mexico: 50 cents a barrel.

Southwest Texas: (Effective November 2, 1931)

Refugio: Heavy: 75 cents.

Refugio: Light: (Same as Gulf Coast—see below).

Gulf Coast: (Effective November 2, 1931)

Goose Creek, Hull, Liberty, Orange, Pierce Junction, Mykawa, Moss Bluff, Raccoon Bend, Barbers Hill, Sour Lake, Spindletop, Sugarland, West Columbia, Humble and Refugio Light: Below 25 gravity: 70 cents, with differential of 1 cent for each degree to 40 and above which is posted at 86 cents.

Mirando: 75 cents; Salt Flat: 60 cents; Darst Creek: 60 cents; Pettus: 85 cents; Markham: 67 cents.

East Texas (Effective November 2, 1931)

Flat Price 83 cents.

North Louisiana and Arkansas: (Effective Nov. 4, 1931)

Caddo, Homer, Haynesville, Bull Bayou, Sabine, Cricton, DeSoto, El Dorado, Cotton Valley, Sarepta, Cartersville: Below 25 gravity 53 cents with differential of 2 cents for each degree beginning with 25 gravity and ending with 40 and above. Top price 85 cents a barrel.

Smackover: 55 cents.

Rocky Mountain States: (Effective Nov. 3, 1931)

Salt Creek: Below 29 gravity 61 cents; 29-29.9 gravity 63 cents, with differential of 2 cents each degree to 40 and above. Top price 85 cents.

Elk Basin and Grass Creek: $1.05; Big Muddy: 83 cents; Lance Lance Creek $1.05; Rock Creek: 85 cents; Sunburst: $1.00; Osage: 98 cents; Cat Creek: $1.05 cents; Pondera: 90 cents; Hogback, New Mexico: 80 cents.

Eastern States: (Effective November 3, 1931)

Lima: $1.00; Indiana: 60 cents; Illinois: 95 cents; Princeton 95 cents; Wooster: $1.15; Western Kentucky: 90 cents.

Pennsylvania: (Effective March 12, 1932)

Bradford District: $1.82; National Transit Oil: $1.80; Southwest Pennsylvania Pipe Line Oil: $1.55; Eureka Pipe Iine Oil: $1.50; Buckeye Pipe Line Oil: $1.35; Corning Crude: 80 cents.

Michigan: (Effective Oct. 9, 1931). Midland: 55 cents a barrel. Muskegon: Same posting as Mid-Continent; 61 cents to 85 cents a barrel.

Canada: (Effective Nov. 3, 1931).

Petrolia: $1.90; Oil Springs: $1.97.

Commission Probably Will Issue Proration Orders for Gulf Coast

Houston.—Proration orders in which allowables will approximate present production probably will be issued for Texas Gulf Coast and Southwest Texas following the hearing of the railroad commission scheduled in Austin for March 30, according to word received from Austin March 22. These fields are not producing under proration orders.

Bee and Refugio Counties, the dispatch stated, probably will receive orders controlling gas-oil ratios and production.

For purposes of comparison, production of fields in the Gulf Coast region of Texas for the week ending March 19, follows:

Barbers Hill	17,700	North Dayton	350
Batson	900	Orchard	1,400
Big Creek	1,200	Orange	1,400
Blue Ridge	1,200	Pettus	5,900
Boling	550	Pierce Junction	5,750
Clear Lake	8,100	Port Neches	900
Damon Mound	700	Raccoon Bend	4,900
Esperson	1,750	Refugio	9,850
Fannett	400	Saratoga	950
Goose Creek	3,550	Somerville	650
Hankhamer	1,900	Sour Lake	1,800
Hull	4,900	South Liberty	1,200
Humble	5,700	Spindle Top	3,900
Manvel	100	Sugarland	10,100
Moss Bluff	100	West Columbia	3,800
Others	5,800		
Total Texas Gulf Coast	107,400		

Right of Government to Tax Income From State-Owned Lands Being Tried

Washington, D. C.—The right of the federal government to tax state-owned oil lands is being tried before the U. S. Supreme Court by the government and Coronado Oil & Gas Company of Oklahoma.

Thomas D. Thacher, solicitor general of the department of justice, asked the court to uphold the right of the government to tax income of companies derived from development of such lands on a royalty basis.

Oklahoma Stripper Wells On Full Production

Stripper wells in northeastern Oklahoma were taken off proration and are now allowed to produce their limit. This will not cause any material increase in output, since the daily average of about 10,000 of such wells has only been about 6500 barrels a day, with curtailment of 10 per cent up to the time of the removal of restrictions. These wells are practically all classed as belonging to earlier development and consequently are of little consideration in the determination of prorated allowances of the state.

Constitutionality of Texas Pipe Line Law Is Argued Before Court

Houston.—Five companies identified with the natural gas industry in the Texas Panhandle were arguing, March 17, before a three-judge Federal Court the constitutionality of the pipe line law passed by the Texas legislature in 1931. The judges were expected to take the case under consideration instead of ruling at the conclusion of the hearing.

The constitutionality of the law is attacked in suits for injunction to invalidate that part of it which would compel pipe line companies to purchase all gas offered them in the Panhandle on a ratable basis. The companies seeking injunctions are Texhoma Natural Gas Company, Cities Service Company, Panhandle Eastern Pipe Line Company, Interstate Pipe Line Company, and North American Oil & Gas Company.

In behalf of the state, Assistant Attorney General Cheek argued that the purpose of the law was to compel pipe line companies to pay for what they took, pointing out that their wells drained gas from beneath the leases of other producers lacking market facilities.

Judge Hutcheson, ranking dignitary of the court, stated it was difficult to follow the theory that a person may be forced to purchase a commodity he does not desire and for which he may not be able to pay.

University Suit of Big Lake Royalties Postponed to March 24

Austin, Texas.—Hearing on the law questions in the suit of the University of Texas vs the Reagan County Purchasing Company et al, has been postponed from March 21 to Thursday, March 24, due to the illness of D. A. Richardson, Oklahoma City, attorney who will represent the defendants.

The suit is for $575,000 back royalties payable to the University of Texas, which the state contends is due under its interpretation of the purchasing contract. The wells are in the Big Lake field.

Conference at Austin to Discuss Mid-Continent Oil Conservation

Austin, Texas.—C. V. Terrell, chairman of the Texas Railroad Commission, has accepted the invitation of Thurman Hill of the Kansas Conservation Commission, to attend a conference in Austin on March 25, to consider conservation problems of Kansas, Oklahoma and Texas.

Mr. Terrell stated that some member of the commission or the chief supervisor of the oil and gas division, R. D. Parker, would attend the conference.

American Republics Corporation Is Sued for $510,000 Damages

Houston.—The National City Bank of New York filed suit for damages March 21 in Judge Ben F. Wilson's court at Houston against American Republics Corporation asking $510,000 damages.

The petition alleges that the American Republics Coropration executed two notes of $250,000 each, payable in 30 days, and alleges furthermore that there is an unpaid balance in excess of $497,000 on these notes.

On March 16, J. S. Cullinan of Houston, and Sylvester D. Townsend of Wilmington, were appointed receivers for American Republics Corporation by Chancellor J. O. Wolcott of Wilmington, Delaware.

On February 25 the management successfully defeated an attempt to oust the management. This attempt was made by a group of stockholders headed by T. P. Lee of Houston.

A Houston law firm, Huggins, Kayser and Lidell, filed the suit.

Iraq Conundrum Will Be Answered in 1935 When Pipe Line Is Completed

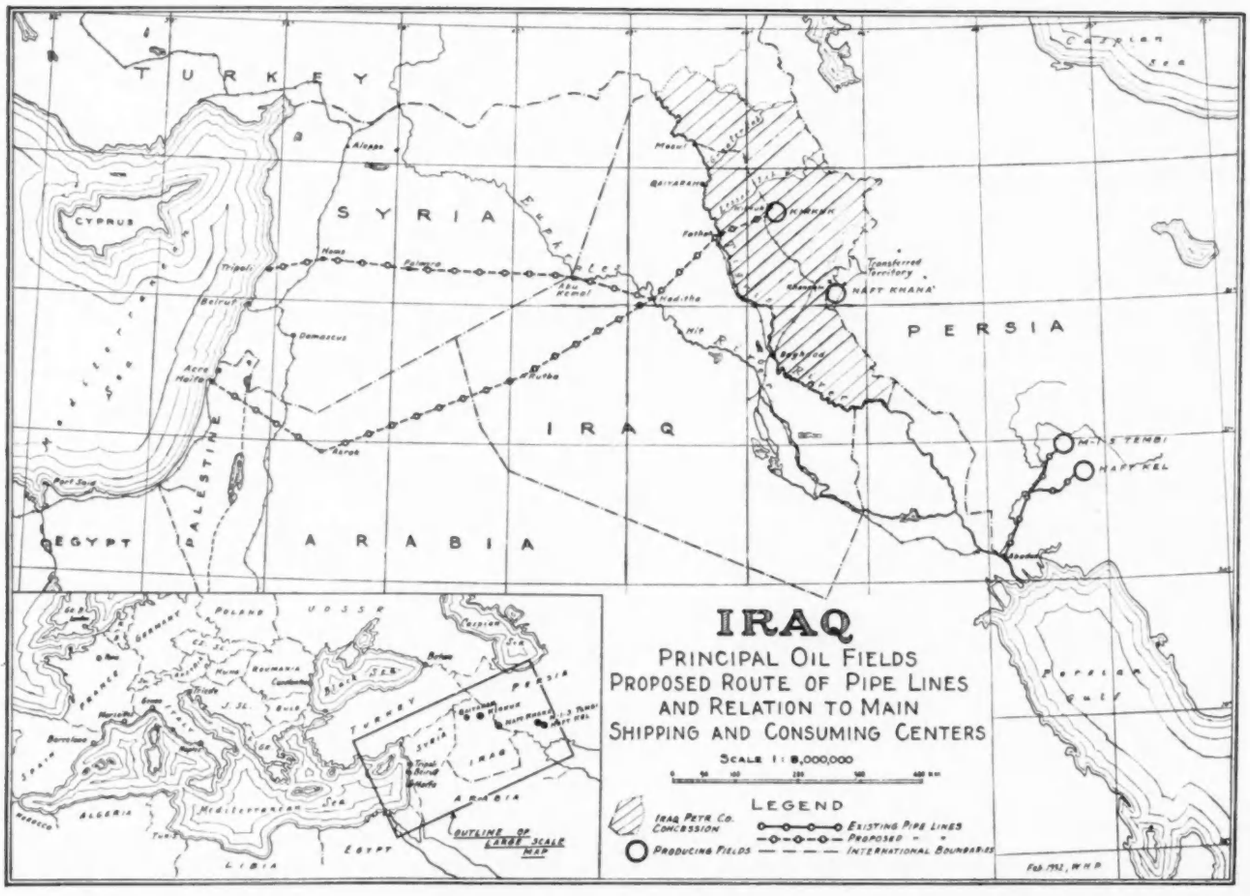
AFTER 20 years of negotiating, laborious exploration and test drilling, the situation there (in Iraq) has reached the stage where the petroleum industry is looking forward with mixed emotions to 1935, the date set in the agreement with the Iraq government for the completion of the projected pipe line. The world supply situation at that time, the problem of "getting business" for the line, recovering the heavy investment required for construction as well as for long and expensive exploration work, the question of just how prolific Mosul oil will eventually prove to be, the refining situation abroad and the development of other foreign fields—all these will have an important bearing on the answer to the Iraq conundrum in 1935. And all are uncertain factors.

As the situation stands today, production in Iraq cannot be expected to exceed the present annual output of 1,000,000 to 1,200,000 barrels until the line is completed. The contemplated capacity of the underground carrier is approximately 30,000,000 barrels a year, and the Iraq Petroleum Company is now seeking to develop sufficient production to justify its construction.

At the present time, in accordance with the convention made last March between the government of Iraq and the Iraq Petroleum Company, Ltd., surveys were carried out between various points in the concession and the Mediterranean seaboard and the route of a Y-shaped line finally decided upon. H. S. Austin, builder of the Ajax pipeline in the United States and president of both the Ajax Pipeline Company and Tuscarora Oil Company, was called abroad to take charge of the construction work. Assisting him is Capt. M. Stuckey, formerly with the Andean Pipeline Company in Colombia.

As it is at present contemplated, the line will start at Kirkuk. Two parallel cylinders of electrically welded steel, each 10 inches in diameter but expanding further on to a 12-inch diameter, will stretch across the desert to Fatha on the Tigris River and from thence to Haditha on the Euphrates. There we come to the two arms of the "Y", for one outlet runs across British mandated territories through Rutba and Azrek to the seaport of Haifa on the Mediterranean. The second arm extends through French mandated Syria to the seaport of Tripoli by way of Abu Kemal, Palmyra and Homs. Except or a small section near the Jordan Valley on the southern branch, the same diameters of 10 and 12 inches will be utilized; in this valley smaller sized pipe will be required in order to handle the pressure head. The distance from Kirkuk to the Mediterranean is around 650 to 700 miles. With the bifurcation, there will be some 1200 miles of pipe laid in all.

* * * There are few roads save those constructed by the oil companies, and no through highway exists across the desert to the Mediterranean. On the other hand, the surface of the desert is firm like a hard pebble pavement and



—Map courtesy of The Lamp

free from sand dunes, so that motor cars can go almost anywhere in dry weather.

* * * The Iraq Petroleum Company, as the Turkish Petroleum Company had been renamed, obtained exclusive rights to those parts of Iraq lying in the Baghdad and Mosul provinces east of the Tigris River but excluding the Transferred Territories and the company, except for a minor reservation, gave up the area lying west of the Tigris. The area of the concession is shown clearly on the accompanying map. As it is now constituted, the Iraq Petroleum Company is composed of the following interests, with the percentage of ownership indicated:

D'Arcy Exploration Company, Ltd. (Anglo-Persian Company, Ltd.)	23.75%
The Anglo-Saxon Petroleum Company, Ltd. (Royal Dutch Shell)	23.75%
Compagnie Francaise des Petroles (French group)	23.75%
Near East Development Corporation (Standard Oil Company (N.J.), Standard Oil Company of New York, Gulf Refining Company)	23.75%
Participations and Investments, Ltd. (C. S. Gulbenkian, et al.)	5.00%
	100.00%

On the map you will find in the Transferred Territories a circle marked Naft Khaneh. This field was the first important discovery of recent years, being brought in early in 1927 by the Anglo-Persian Oil Company. In the fall of that year the Turkish Petroleum Company (now Iraq Petroleum) brought in two fields, Qaiyarah and Kirkuk, both of which can be located readily on the map. So far this marks the total discoveries in Iraq. The country's own requirements are obtained from the Anglo-Persian Khanaqin refinery, which furnishes crude from the Naft Khaneh field. The plant runs approximately 700,000 barrels of crude a year. The Iraq Petroleum Company has a small skimming plant at Kirkuk to supply its field requirements, but so far has not produced any oil for export.

Geologists find Iraq an interesting study. Oil lies at levels ranging all the way from surface seepages to depths beyond the reach of the drill. The Main Limestone, which composes the principal reservoir rock, is from 800 to 1000 feet thick. Centuries ago a giant hand pushed irresistibly against the rigid, thinly covered Arabian shield. The earth crumbled under its pressure and today geologists find the underground structure faulted and folded in a complicated manner. Generally the structures are long and narrow, making test drilling a difficult and expensive task, for it takes only a slight miscalculation or a stroke of bad luck to miss the oil-bearing structure altogether.

Thus far, the driller in Iraq has not had to penetrate to any excessive depths in search of his oil, although he has found considerable rock pressure in some areas when he got down to the pay. Geologists estimate that the wells must reach from 700 to 1100 feet below the surface in Qaiyarah, and from 1250 to 3500 feet in Kirkuk. In other structures of oil promise which are as yet unproved, test wells would have to go to depths beyond the present reach of the drill.

Heavy machinery, tall steel rigs, massive pumps, drills, tools and thousands of feet of casing and drill pipe all are necessary on rotary jobs such as this. Just guess at the cost of transporting such material over the Iraq desert and through mountains where no trail exists and with hardly a stretch of railroad along the entire route. That is putting gray on the temples of the oil man there today.

What with drilling problems, transportation worries, international negotiations, expensive development and hostile Arabs, it is going to take him a long time to realize his heavy investment in Mosul oil.—(*From The Lamp.*)

Texas Visible Oil Reserves Will Last Nine Years at Present Rate

Austin, Texas.—Total recoverable oil reserves in Texas were placed at between three billion and three billion and a half by Donald C. Barton, consulting geologist and geophysicist of Houston, in a comprehensive survey presented in a paper before an economic conference called by the bureau of business research of the University of Texas. The meeting covered two days and included discussions of all basic industries of the state, with Dr. A. B. Cox, director of the bureau, presiding. Other speakers on petroleum were Wallace E. Pratt, Humble Oil & Refining Company, and H. J. Struth, THE OIL WEEKLY, both of Houston.

In arriving at his total of recoverable oil in Texas, Dr. Barton presented details of his estimate by fields and districts, as shown in the accompanying tabulation.

Reserves of Recoverable Oil in Sight in Texas

	Barrels
East Texas	2,000,000,000
Yates—Pecos County	260,000,000
Hendricks—Winkler County	81,000,000
Big Lake (upper pay sands only)—Reagan County	42,000,000
Church and Fields—Crane County	16,000,000
Crier-McElroy—Crane County	26,000,000
McCamey-Taylor—Upton County	20,000,000
Chalk, etc.—Howard and Glasscock Counties	22,000,000
Luling—Caldwell and Guadalupe Counties	21,000,000
Salt Flat—Caldwell County	11,000,000
Lytton Springs—Caldwell County	1,000,000
Darst Creek—Caldwell County	12,000,000
Somerset—Bexar County	1,000,000
Mexia—Limestone County	5,000,000
Wortham—Limestone County	1,000,000
Powell—Navarro County	3,000,000
Van—Van Zandt County	214,000,000
Gulf Coast of Texas	650,000,000

He stated that if the increase in production in Texas continues at former rates, the supply would be equivalent to about eight or nine years. His guess as to the future course of production in Texas contemplates a gradual decline from a peak of 330,000,000 barrels a year between 1932 and 1935 to but 15,000,000 barrels between the years 2000 and 2025. His conclusions carried the admonition that estimates of oil reserves of such an area as Texas are at best nothing more than a guess about the unknown.

Mr. Pratt pointed out that Texas is scheduled to furnish more of the future supply of oil than can be obtained from any other subdivision of the United States. His studies showed that for each producing oil well in Texas, 2.8 wells have been drilled during the past; in Oklahoma, 2.4; in California 3.2; and in the United States 2.8. He cited facts to show that the death rate for Texas oil wells over the past decade has been 15 per 100; for Oklahoma, 7 per 100; for California, 10 per 100; for the United States, 6 per 100. Texas' completions have increased in annual number over the past decade from about 4000 to about 7000, with a peak of 9000 in 1926. In 1931, Texas completed more than 6300 wells, or about 50 per cent of the United States total.

A compliation presented by Mr. Pratt, shows the dry hole

(*Continued on page 51*)

Personal Mention—Men You Know

▼ ▼ ▼

W. M. FULTON, who is confined to his bed in a Great Falls, Montana, hospital, has shown remarkable improvement recently and hope is now held out that he may be able to walk again. Mr. Fulton was very gravely injured when he was crushed between two automobiles on a Great Falls highway many months ago; he sustained five fractures of the leg bones and severe bodily injuries besides. He has continued his work at the head of his several oil and gas companies from his hospital room. Mr. Fulton is one of the pioneer operators in Montana oil and gas fields and the story of his career reads like a romance.

RICHARD D. VEDDER, vice-president of Vedder Petroleum Corporation, died at his home in Monrovia, California, March 12. He had been active in California producing circles since 1918 and was credited with the discovery of the Mt. Poso field in Kern County.

ROSS McCOLLUM, general manager of the production department of Signal Oil & Gas Company, has been elected a vice-president of the company. H. J. March has been elected secretary, and J. H. Rounsavell has been elected assistant secretary.

CAPTAIN JOHN S. COLLIER, a veteran officer with Union Oil Company's tanker fleet and a lieutenant commander in the U. S. Naval Reserve, died recently in Los Angeles after a short illness.

HENRY B. MAY, manager Inland Waterways Pipe Line Company, operator of pipe line system in the East Texas field that serves the Arrow Refining Company's refinery at Overton, Texas, has been elected president. May is also in charge of the refinery's operations.

E. L. CHURCHILL, 45, drilling contractor who has been operating in West Texas, was fatally wounded March 15 while standing in the lobby of a hotel in Fort Worth following an altercation with a local police character.

FRED J. BEDFORD, 63, manager lubricating oil sales department for Magnolia Petroleum Company, died at his residence in Dallas, Texas, March 16. He was a native of New York City, and had been an employe of the above organization for 22 years.

J. E. ELLIOTT, president of Elliott Core Drilling Company, is visiting Mid-Continent fields.

F. C. HALL, vice president of Kessler Oil and Gas Company and president of the recently organized Marion Oil Corporation, has moved his offices from the Petroleum Building to the Commerce Exchange Building. Organization of Marion Oil Corporation brings together again the former combination of F. C. Hall and Powell Briscoe, who made an enviable reputation for themselves under the name Hall and Briscoe. The new company has started one well in the Oklahoma City pool and is acquiring additional acreage which it hopes to drill in the near future.

National Oil Scouts Will Hold Meeting at Houston May 15-17

Dallas, Texas.—National Oil Scouts Association of America will hold its eighth annual meeting at Houston, May 15, 16 and 17. Selection of the Gulf Coast metropolis over other contenders was made at a special session of the executive committee held here March 19. A large percentage of the association's membership is now concentrated in the East Texas and Southwest Texas districts, according to C. A. Strahan, Shreveport, chairman of the executive committee, and Houston will be the most convenient point.

Preliminary reports submitted by scout members that have had charge of distribution of the association's yearbook indicate all copies of the 1931 issue will be disposed of within another month, according to J. H. Langston, chief scout for Sun Oil Company, Dallas, and president of the organization. Popular response met with by the first publication will result in additional copies, and more territory being covered by the next issue. Complete coverage on all vital information pertaining to the East Texas field will be incorporated in the 1932 issue, which is scheduled to be ready for distribution at the Houston convention.

Houston, Texas.—L. S. McGee of Houston, scout for Humble Oil & Refining Company, and second vice-president of the National Oil Scouts Association of America, was selected by the executive committee of that organization at Dallas March 19 to head the arrangements committee for the annual meeting of the association to be held in Houston on Sunday, Monday and Tuesday, May 15, 16 and 17. Other members of the committee will be appointed by McGee, and the appointments will be announced soon at a meeting of the Gulf Coast scouts.

C. E. BEESON, vice-president and treasurer of Pittsburgh Steel Products Company, Pittsburgh, spent several days in the Mid-Continent area during the past week en route to the Pacific Coast.

GEORGE C. MOON, vice-president, and A. S. Rairden, chief engineer of American Cable Company of New York, were in Tulsa last week conferring with R. L. Gromley, manager of the company's Mid-Continent district. Mr. Rairden has recently completed a survey of business conditions in Texas and Oklahoma and will visit Kansas areas while Mr. Moon goes to California on a similar mission.

DR. GUSTAV EGLOFF, director of research for Universal Oil Products Company of Chicago, gave a lecture on "Modern Gasolines," Thursday, March 24, to the School of Petroleum Engineering at the University of Tulsa. Dr. Egloff delivered the same address to the School of Petroleum Engineering at the University of Oklahoma on Thursday morning and came by plane to Tulsa for the afternoon meeting.

Oklahoma--Kansas Field Notes

FLOYD SWINDELL, *Staff Representative, Tulsa, Oklahoma*

▼ ▼ ▼

Oklahoma City Runs Below Allowable During Week; Two Producers Added

Oklahoma City.—Two wells were completed in the Oklahoma City pool during the past week and four new locations made. With an average of 141 wells on production daily the average production was 91,458 barrels, approximately 12,000 barrels below the daily allowable. Daily production and number of wells on production is shown in the accompanying tabulation:

	Wells	Production Barrels	Allowable Barrels
March 13	125	69,816	102,000
March 14	103	38,905	102,000
March 15	113	57,149	102,000
March 16	112	69,298	105,000
March 17	159	135,251	105,000
March 18	181	135,804	105,000
March 19	198	133,886	105,000
Total		640,209	726,000

During the 24-hour period ending Saturday, March 19, 198 of the total of 883 completed wells were on production. Of this number 147 were flowing natural, 49 were on gas lift, one was pumping, and one was being swabbed.

Octate Oil Company's Smith 2, CS½ SE NE NW Section 15-11n-3w, produced 2734 barrels the first two hours, flowing through a 4½-inch choke against 250 pounds back pressure. Production is coming from Wilcox sand logged at 6400 to 6515 feet. The second and largest completion was that of Hall and Briscoe's, Block 18, Central Addition, SW SW SW SE Section 3-11n-3w, which bailed down and flowed 920 barrels the first 15 minutes with gas at an estimated rate of 40,000,000 cubic feet. This is one of the few wells which have nine-inch casing set on or near the top of the producing formation, the string having been set at 6283 feet. Total depth is 6487 feet.

Lincoln County Gets Second Set Back in Month, Water in Wilcox

Chandler, Okla.—Lincoln County received its second disappointment in a month when Atlantic Oil Producing Company found water in Wilcox sand in Beebe 1, NE SW SW Section 8-13n-6e, approximately four miles southwest of the Sac and Fox Agency in the southeastern portion of the county. This was also the second geophysical "high" to fail in the county during the month. After setting eight-inch casing at 4357 feet, seven feet in that formation, the hole was standardized and drilling continued to Wilcox sand logged at 4440 to 4451 feet. Shortly after encountering that formation the hole began to fill with water and drillers were ordered to stop. It is now being plugged back to test Hunton formation, where a showing was had just below 4206 feet. The test ran approximately 100 feet higher than a dry hole in Section 5-13n-6e and slightly lower than one in Section 9-13n-6e.

Barnsdall Oil Corporation et al's Community-Taylor 1, SW SW NW Section 17-14n-5e, was not reported during the past week but commercial production from the Prue sand is very doubtful. It is also a wildcat located on geophysical structure which was not productive in the Wilcox sand.

Goodrich Pool Discovery Well Makes Pumper When Deepened

Wichita, Kans.—Continental Oil Company recompleted Goodrich 1, SW NE SW Section 16-25s-1e, discovery well of the Goodrich pool, in northern Sedgwick County. This well created excitement in January, 1929, when it came in unexpectedly at 3014 to 3024 feet, variously estimated from 5000 to 10,000 barrels initial production. As no commercial production was expected at this depth, the original big flow came in through several hundred feet of open hole and operators were faced with a difficult problem in satisfactorily completing the casing program. The recent work involved deepening to Viola limestone which was logged at 3341 to 3347 feet, from which depth it pumped 490 barrels the first 24 hours.

Recompletion of Goodrich 1 gives Continental Oil Company six producing wells in the Goodrich pool, which is located on the old Marland Oil Company block of 3560 acres in Sections 8, 9, 10, 14, 15, 16, 17, 20, 21, and 22-25s-1e. Other producers are as follows:

Brown 1, NWc SW, 15-25s-1e, 80 barrels, from 2614 to 2618 feet.

Casey 1, SW SW NW Section 15-25s-1e, 400 barrels, 2614-2616 feet.

Smith 1, NEc SE 16-25s-1e, 420 barrels, 2613-2614 feet.

Goodrich 2, (owdd) NW NE SW 16-25s-1e, 605 barrels, 3334-3440 feet.

Black 1, (owdd) SW SE NW 16-25s-1e, 210 barrels, 3334-3337 feet.

Wright Pool

Continental Oil Company and Gypsy Oil Company were pulling big pipe after setting 6⅝-inch casing at 3314 feet in Corr 1, SEc NW Section 12-26s-1w, four locations west of the discovery well in the Wright pool, Sedgwick County. The same operators were underreaming below 1475 feet in Bishop 1, NWc NE Section 13-26s-1w, wildcat test, half-mile south of Corr 1 and about the same distance southwest of production. These two tests, although by ordinary rules would not be listed as wildcats, are of extreme importance to the area and discovery of commercial production in either would cause a considerable amount of drilling. Corr 1 is running slightly higher than wells on the west edge of the pool.

Barton-Ellsworth Arch

Allowable production in Barton-Ellsworth Arch pools was reduced during the week from the 15 per cent which has prevailed since proration went into effect to 10 per cent. Stanolind Crude Oil Purchasing Company, the principal buyer, announced that it would be unable to maintain the

15 per cent rate with production increases due to completion of new wells but that it hoped to slightly increase its takings in April. The new area now has about 15 producing wells rated from a few hundred to 2400 barrels daily.

Slick, Pryor and Lockhart et al have staked location for Heiken 1, NE NE NE Section 26-17s-10w, west offset to Ainsworth et al's Heiken 1, which was completed for an estimated 2000 barrels at 3243 feet.

Schurr-Raymond Pool

Magnolia Petroleum Company was drilling below 3343 feet and had not found Arbuckle "Siliceous" limestone in Boyer 1, SW SW NW Section 7-20s-10w, east offset to Charles Hilligos et al's Isern 1, discovery well in the new Barton County area, which was completed for 480 barrels in lime from 3315 to 3329 feet. Failure of Boyer 1 to get the producing formation at its present depth, although not condemning, is unfavorable in view of the fact that it is a standard offset.

Muskogee Indian Lease Sale Shows Revival of Interest

Muskogee, Okla.—Out of a total of 98 Indian leases offered at the sale of the Five Civilized Tribes on Thursday, March 17, only 28 were sold but the unusually large crowd of bidders and the slightly higher prices which were paid, indicate that interest in sales of this type of acreage is picking up. The 28 leases which were sold included 2,229.84 acres of the 8,053.15 acres which were offered.

Indian Territory Illuminating Oil Company paid the highest price of the day when it gave $16 an acre for 39.23 acres in lot 1, Section 18-11n-7e, Okfuskee County. Other leading sales were as follows:

Stanley Price, $1.00 per acre for 160 acres, SW Section 13-16n-13e, Tulsa County.

Mid-Continent Petroleum Corporation, $5.50 per acre for 80 acres, E½ SE Section 19-7n-7e, Seminole County.

W. O. Allen, $6.50 per acre for 80 acres, N½ SW, Section 2-5n-7e, Seminole County.

Carl J. Hornet, $5.50 per acre for 80 acres, W½ Se Section 24-4n-6w, Garvin County.

W. B. Rogers, $3.00 per acre for 160 acres, SW Section 25-5n-1w, McClain County.

Darby Petroleum County, $5.00 per acre for 50 acres, Section 14-5s-1w, Carter County.

Nine counties were included in the acreage sold, Seminole County leading with six, five were in Creek County, three in Wagoner, three in Okmulgee, two each in Carter and Garvin, and one each in Tulsa, Pontotoc and McClain counties.

Of 18 Hughes County tracts offered, none were sold.

Wichita, Kans.—Gypsy Oil Company is plugging to abandon D. R. Williams 1, SW NE SW Section 16-35s-3w, old Wilcox sand producer which was originally completed May 10, 1929, and rated at 1700 barrels initially. Due to rapid decline in production in the three wells which are known as the Stateline pool, the company deepened Williams 1 to Arbuckle "Siliceous" limestone, logging that formation from 4969 to the total depth at 5062 feet, and having 2200 feet of water in the hole. Original total depth in Wilcox was 4784 feet.

South Oklahoma's Active Spot Closed Down By Windstorm

Duncan, Okla.—Southern Oklahoma's most active area, which is located about seven miles southwest of Duncan, received a setback during the past week when a windstorm wrecked derricks at three of the four tests which are just getting under way. The area, which probably will be called the Dare pool, from the name of one of the principal leases, now leads this portion of the state, but it probably will not develop into an extensive campaign because of the relatively small intial production. Production from the 1400-foot zone was discovered by J. C. Chambers et al when Dare 1, SE NW SE Section 2-2s-8w, was completed for 40 barrels from sand at 1356 to 1361 feet. This was in November, 1931. Continental Oil Company followed with Dare 1, NE SW NE Section 2-2s-8w, south offset to the Chambers et al's well. This was an 8½ million foot gasser at 1433 to 1438 feet. Since that time six other tests have encountered production in the shallow zone and four locations will be active as soon as derricks can be rebuilt. Initial production ranges from 10 to 150 barrels of oil and from five to 8½ million feet gas.

Curtis Oil Company's Dare 2, NW NE SE Section 2-2s-8w, the eighth and best producer, was completed for 150 barrels initial, production coming from sand at 1362 to 1400 feet. The same operator was having difficulty in completing Dare 2, NW SW SE Section 2-2s-8w, which showed nothing but gas in the 1400-foot sand but promises to make a commercial producer at 2092 to 2122 feet, where a new series of sands have been found in tests drilled previous to discovery of the 1400-foot zone. After setting liner to shut off cavings, the well started swabbing about 50 barrels daily and was thought to be increasing slightly. No estimate of initial production has been reported for George Pace's Green A-2, SE SE SW NE Section 2-2s-8w, which has a series of saturated sands between 1390 and 1430 feet. P. L. Gilbert is rigging up rotary tools at Green 2, SW SW SW NE Section 2-2s-8w.

Derricks were blown down at J. D. Loughbourrow's Dare 1, SW NW SW SW Section 2-2s-8w; Crane and Rankin's Dare 1, SW SW NW Section 1-2s-8w; and Ed Chamberlain's C. P. Parker 1, NE NE SE SE Section 11-2s-8w.

Seminole, Okla.—Fred L. Coogan has announced location for Moran 1, NE NE SW Section 30-7n-8e, two locations south and two west of Tulsa Oil Company's Davis-Semele 1, which flowed 1835 barrels on potential gauge. Jarvis and Holmes' Fish 2, first location north of Davis-Semele 1, made 3645 barrels on initial gauge after flowing wild for several days when it blew tools from the hole and started making gas at more than 40,000,000 cubic feet. Production is coming from the Cromwell sand in the Wapanucka formation.

Barnsdall Oil Company was drilling below 2660 feet after coring shale and sandy shale from 2478 to 2656 feet. The last foot of the core taken at 2578 to 2596 feet showed oil. Location is NE NE SW Section 25-6n-4e, south of the Sacred Heart area in southeastern Seminole County.

Sweetgrass, Mont.—The discovery oil well in the Whitlash field, southwest of here and only a few miles south of the international line, pumped 60 barrels of crude oil last week before it had filled all available storage and was shut in. The well has been making nice heads; one day it produced 33 barrels, natural. Discovery of oil in the Whitlash field, which had hitherto been proved only for gas, will doubtless lead to some interesting exploratory work this summer.

News From California Fields

BRAD MILLS, *Staff Representative, Los Angeles, California*

▼ ▼ ▼

Standard Suspends Work on Middle Dome Test; Favors Unit Agreement

Coalinga, Calif.—Standard Oil Company has temporarily suspended operations at No. 6-29V, important Middle Dome test at Kettleman Hills, but has not announced completion plans. The well was drilled to 7535 feet and a string of 8⅝-inch casing cemented at 7513 feet for a water shutoff test. Operations were suspended soon after swabbing for the shutoff test was started. The hole was cleaned out a few feet below the show of the water string, but the shutdown came before the bailing test proved much. Completion of this well might give the company the first official production on the Middle Dome, but it is known that development of a large production in the immediate future is not desired. Suspension of operations was a surprise, but the offset well appears far from completion, and the company is known to favor the formation of a unit plan of operation for the Middle Dome.

Petroleum Securities Company has definitely determined that the 8⅝-inch water string in Burbank 1, Middle Dome test, is in bad condition, and it may be necessary to run another string to effect a shutoff. This adds to other serious mechanical troubles and seriously delays completion of a well which was drilled to 9332 feet and plugged back to 9208 feet for a production test. The drill pipe has been recovered to 5178 feet. Trouble has also been experienced in recovering the small flow string.

Long Beach Remains Most Active In Basin With Only Six New Tests

Long Beach, Calif.—Long Beach manages to remain the most active field in the Los Angeles basin, but the level of development in this district does not warrant more than passing comment. This field was shaped for an increase in field operations, but conditions did not show the expected improvement and the number of active projects does not exceed 24. Of this number, six wells are making hole and the remainder are plugging or redrilling. The Los Cerritos extension flared up a few months ago, but the 8000-foot zone failed to make a consistent producer.

Offsetting Campaign Increases Active Drilling in Fruitvale

Bakersfield, Calif.—With 10 drilling wells and a few additional locations, the Fruitvale field has become the most active in Kern County. This front rank position came on short notice and followed a few edge completions in the northeast extension and in a district which had been largely quitclaimed two years ago. Western Gulf Oil Company recently started four wells and is the most active operator in the field. This company discovered the field more than three years ago, but stopped operations after completing several good wells. The necessity for offsets forced resumption of drilling. Several small operators have been attracted by the possibilities of shallow production, and are able to drill wells much cheaper than the cost would have been two years ago. The oil has been used chiefly for fuel stocks and contains only about five per cent gasoline on a straight run basis. Experiments have been conducted, however, to determine the cracking qualities of the crude, and it is known to make a good grade of gasoline by this method. Production is obtained above 4000 feet and wells may be drilled quickly. The field apparently bears a closer connection to the fringe of the San Joaquin valley than first reports indicated.

Plan 70-Mile 12-Inch Gas Line To Supply Needs of San Diego

San Diego, Calif.—Construction of a 12-inch natural gas line between Long Beach and La Jolla will start soon, as the result of a decision of the San Diego Consolidated Gas and Electric Company to bring gas to San Diego for domestic and industrial consumption. The line will exceed 70 miles in length and will provide the southern city with gas from the Los Angeles basin, although it may be necessary to use Kettleman Hills gas, via Long Beach. Southern Counties Gas Company will sell natural gas to San Diego Consolidated Gas & Electric Company at 25 cents per thousand cubic feet, delivered at La Jolla. This marks the first attempt to furnish San Diego with natural gas in commercial quantities.

Huntington Beach Loses Prestige As Deep Production Possibility

Huntington Beach, Calif.—Huntington Beach is a good example of a field which intermittently attracts and loses the attention of operators speculating for deep sand production. All deep tests are now abandoned or shut down and the excitement attendant to the deep drilling has completely subsided. Huntington Beach has long been regarded with favor for production in the very deep zones, but the best geological advice now discourages too much enthusiasm in this direction. Three or four wells were drilled to test the streaks of oil sand and shale found below 7000 feet, but the best that could be obtained was a small amount of oil and more water. W. E. McCaslin was a veteran in this deep drilling, but he finally suspended operations after drilling past 8300 feet and making several production tests. Superior Oil Company joined the procession and drilled three wells to test these questionable zones. One well was drilled to a point below 9000 feet.

Newport Beach Wildcat Making Production Test at 7260 Feet

Los Angeles.—Ajax Petroleum Company may run a string of 6⅝-inch casing to about 6500 feet before making a production test in Mesa 1, a deep wildcat in the Newport Beach district. This well was drilled to 7260 feet, but casing trouble caused a temporary suspension of operations. After making a production test at the present depth, drilling will be continued to around 7500 feet for another production test, if necessary. Abandonment probably will follow a second unsuccessful production test. The hard gray sand

cored near the present bottom resembled that found in deep wells at Huntington Beach. The Newport Beach district has produced a small amount of oil from shallow wells for a generation, and has been tested for deeper production by Standard Oil Company, Superior Oil Company and others.

Deep Drilling in Prospect at Playa del Rey; Shallow Wells Did Not Pay

Los Angeles.—Deepening of a few wells at Playa del Rey is planned by operators who are not satisfied with the action of producers in the shallow zone. Most of the recent completions have been in the deeper producing zone, which has not been intensely developed in most sections. The deep zone was regarded at first as the first producing formation, but the shallower zone soon replaced it in the town lot sector as the most popular sand. The town lot operators were anxious to complete their wells on the shortest possible notice, and a small yield at little expense around 4000 feet was tempting. It developed that the shallow zone was the better producer in some parts of the field. A recent completion in the schist at 5835 feet flowed at a satisfactory rate and other deepening jobs are expected. The Ohio Oil Company and Union Oil Company control the largest leases, but these companies will do as little drilling as possible. The latter has been doing some drilling to define the probable producing limits of the field, but is not in urgent need of more oil. The town lot drilling appears definitely over. Most of the wells failed to pay out, and the small operators are reluctant to put good money after bad.

Elwood Not Considered Threat If Deep Drilling Ban Is Lifted

Santa Barbara, Calif.—Talk of intensive development of the Sespe zone at Elwood is not being viewed with alarm, despite the sharp excess production over the allowable during February and March. It is true that extensive drilling to the deeper producing zone could easily lead to trouble, but the principal operators claim to favor a continuation of the agreement to withhold drilling or deepening to the Sespe zone. The present agreement expires April 30 and there is a possibility that it will not be renewed. The effect of failure to renew remains to be seen. The allowable of the field has been placed at 10,900 barrels. Production during February averaged 16,700 barrels daily, or more than 50 per cent above the allowable. This field basked in the spotlight of public favor for a time as the perfect curtailment example, but its record since the first of the year has been nothing to boast of. The potential of many wells was raised to the highest possible level through artificial measures. At one time the potential was rated above 100,000 barrels daily.

Milham Program at Buttonwillow Includes 20 Shallow Gas Wells

Bakersfield, Calif.—Milham Exploration Company, California subsidiary of Seaboard Oil Company, has expanded its program in the Buttonwillow district and may drill up to 20 shallow gas wells over a considerable period. The increased demand for natural gas and the location of the district near large gas lines make the development of a large supply of gas very logical. A good gas production is obtained above 3000 feet and wells are drilled with little expense. The most recent completion flowed above 20,000,000 cubic feet and was completed in a very short time. The gas is found over a considerable district. Increased gas contracts may force the principal distributing companies to fall back on Buttonwillow for part of their future supply. This is one of the few gas fields in California, most of the natural gas having been obtained from oil fields. Drilling for oil over a long period has failed to develop production. A few wells have been drilled to test formations below the gas zones, but only minor showings have been encountered. The deeper formations cave easily and the heaving shales around and below 5000 feet have been difficult to handle.

Los Angeles.—In the absence of the usual number of promising speculative possibilities in California, deep zone development is attracting some undercover attention among operators. Most of the Los Angeles basin fields have been tested or developed below the original producing zones, but Dominguez, Inglewood and Athens-Rosecrans are still good deep reservoirs. Orderly development of the lower Callender zone at Dominguez has greatly increased the potential of the field, but only a limited amount of drilling has been done in the other two fields. Santa Fe Springs offers little in the deep zones, as the virtual abandonment of deep operations before the Clarke zone was fully developed shows. Ventura Avenue will produce oil from record depths, but the expense of drilling to 9000 feet is so great that only the need of more oil will bring about much development.

South Belridge Test Suspended After Finding Brown Shale at 8260 Feet

Bakersfield, Calif.—General Petroleum Corporation has suspended operations on Berry 1, a deep test in the South Belridge district, but will not abandon the well. After drilling to 8260 feet and stopping in a hard brown shale, the hole was plugged back to 4440 feet and the well shut down. Failure to encounter a formation which could be identified as the Temblor was a surprise. This zone produces from just below 5000 feet at North Belridge, but it is known to be deeper toward the south.

Belridge Oil Company is drilling in hard sand around 8100 feet in No. 64-27, a deep test in the North Belridge field, and should now be in a formation which has been tested very little in the San Joaquin valley. The Temblor zone produces here between 5000 and 6000 feet, but No. 64-27 was deepened to test the possibilities of the still deeper formations.

The North Belridge field promised to help upset the equilibrium of the oil industry for a time, but the producing area in the Temblor zone was soon defined as a very narrow strip controlled chiefly by Belridge Oil Company and Associated Oil Company.

Red Bluff, Calif.—Crockett Drilling Syndicate reports good gas showings in Heavy 2, a wildcat test on Section 20-24n-5w, and about 15 miles west of Corning, and will swab for a production test at 2101 feet. A string of eight-inch casing was cemented at 1543 feet and a six-inch liner run to bottom. Shutting off water has been a handicap, since developments in the district have been limited and the best procedure must be learned from experience. It is impossible to place a value on the gas showings, but claims are made that the gas carries considerable gasoline. The major companies have been watching the test with interest, but leasing has been limited to the transfer of small tracts. Development of a good supply of natural gas in this district would be important.

New Mexico and Rocky Mountain Area

Test North of Hobbs Production May Start Drilling Campaign

Hobbs, New Mexico.—Starting of a test by Amerada Petroleum Corporation approximately one-half mile north of nearest production in the Hobbs field may be the forerunner of a group of locations, as the production trend to the northwest has not been defined. The above company's B. Hardin 1 has been located in SWc SW Section 18-18s-38e, and if a successful completion follows, offsets will be required of Empire Gas & Fuel Company, Gypsy Oil Company and Shell Petroleum Corporation. The field is proven for oil and gas production in a northwest to southeast trend for a distance of 6¼ miles, and the maximum width is approximately 2½ miles.

The sulphur water table is maintaining a slow but steady advance upon the central west flank of the Hobbs field. The deepest penetration upon the oil area by water occurred March 4 when Midwest Refining Company's H. D. McKinley 1, NEc NW Section 5-19s-38e, began showing while restricted to a proration allowance of 251 barrels daily. The volume of water increased to 15 per cent on the second day, necessitating a temporary halt in production pending erection of treating equipment. This well has been credited with a potential oil flow rating of 9850 barrels daily from regular lime at 4010-4190 feet. It has a surface elevation of 3626 feet.

Operations Resumed on Deep Tests on Rattle Snake Dome

Farmington, New Mexico.—Operations have been resumed on the two deep tests drilled by Continental Oil Company and Santa Fe Corporation on the Rattle Snake dome shallow oil field, San Juan County. Munoz Permit 17, located 2547 feet from the north and 860 feet from the east lines Section 2-29n-19w, was swabbing and cleaning out to deepen after being shut down several months at 6985 feet, awaiting the outcome of the other deep test. Munoz 17 was originally completed in April, 1929, in Delaware lime at 6769-71 feet, and produced approximately 350,000 barrels of oil before water killed the oil production. Munoz 24, located 1782 feet from the south and 145 feet from the west lines Section 1-29n-19w, failed to encounter oil, gas or water in the Delaware horizon, and at last reports was coring in shale and lime at 6923 feet. Munoz 28, a shallow test in the permit held by the above companies, has cemented casing to complete in sand topped at 748 feet.

Interesting Operations Under Way Along Alberta-Montana Border

Calgary, Alta.—Several operations of interest are under way, or soon will be, in the southern part of the Province of Alberta. One test has started up on the Canadian side of the Red Coulee, or Border field, which lies partly in Alberta and partly in Montana; it is the Devonshire well which has been standing at 1930 feet and which has been cleaned out and is now running casing.

The wildcat well on the Twin River structure, drilled jointly by Parco Oil Company, Ltd., and Nordon Corporation, is pumping around 10 barrels of crude per day from the upper Madison limestone. A small shot did not improve the production materially and it may be given another. The sand is 30 to 40 feet thick. There has not been a complete report from the location because of the bad roads and highways in that district.

On the Lethbridge structure The Texas Company of Canada, and Imperial Oil Company's joint wildcat test is attempting to shut off bottom water into which the well drilled in the Madison. In the top of this formation there was a considerable showing of high gravity oil.

Wyoming Mineral Production Shows 35 Per Cent Value Loss

Cheyenne, Wyo.—In his annual report John G. Marzel, Wyoming state geologist, states that the value of mineral production in the state fell off considerably in 1931 when compared with 1930. Lower price is the chief cause for the loss; the depletion in the mineral reserve is not to blame. The production valuation in the state in 1931 totaled $30,178,000 which compares with $46,750,000 in 1930. This is a decrease of about 35 per cent.

Shelby, Mont.—Below zero weather prevailing in most of the Montana fields and wildcat locations has brought most operations in the state to a complete standstill within the last fortnight. Such tests as continued work found the going so slow as to register almost no progress. There is only one well in the Kevin-Sunburst field which is active and it is an abandonment. Probably no real activity will start up before the advent of milder weather.

No work is under way in Pondera, Bannatyne, Cut Bank, or other fields in the northern part of the state.

Browning, Mont.—Headed by Levi Burd of this city and Charles Frye, well known stockman, Blackfeet Petroleum Company is ready to take over the management of the wildcat test which has been drilled to 2900 feet on Milk River structure, Blackfeet Indian reservation, Glacier County, which was started many months ago by Fulton Petroleum Company, under the direction of W. M. Fulton. The well is to be continued with rotary, and another test is to be drilled on the lease regardless of the outcome of the well now under way. The second well will be drilled to 5600 feet if necessary.

Red Lodge, Mont.—Ohio Oil Company's Kutchinski 1, on the Golden Dome wildcat structure, east of the Dry Creek field, in Carbon County, Southern Montana, is drilling below 4800 feet, making rapid progress.

In the Dry Creek field Ohio Oil Company's William Robinson 2 is drilling below 740 feet and Industrial 2 is below 3325 feet. Carbon Oil & Gas Company's test on the McMinn lease is drilling around 2600 feet. It is reported that Carbon Oil & Gas Company has recently contracted to deliver 500 barrels per day from its first well in the field which has been standing shut in since completion; it was an eastern extension to the field.

North and West Texas Field Notes

H. H. KING, ***Staff Representative, Fort Worth, Texas***

▼ ▼ ▼

Two Tests Fail in Chalk Hill Area, Another May Extend Field

Wichita Falls, Texas.—United Producers Company failed in its efforts to share in the prolific oil production offered by the Canyon lime horizon at the 2200-foot level in the Chalk Hill field, Archer County. This company's L. F. Wilson 1, located about one mile southwest of the six so-called deep wells now on production, logged traces of oil in the regular Canyon horizon at 2206-2226 feet, but proved dry and free of water when given a drill stem test, with the tool set at 2206½ feet. The hole has since been deepened to 2285 feet, and will probably be abandoned at its contracted depth of 2300 feet.

Deep Oil Development Company and Lindsay Drilling Company, owners of the Chalk Hill deep production, are scheduled to complete Wilson 3, lease 1, one location south of nearest production, some time this week from pay at 2201-13 feet. This outpost is checking high and indicates that important extensions are likely to be made further to the south.

Absence of production in the Canyon horizon on the W. M. Coleman land, located about three miles northeast of the Chalk Hill producers, double-checked when Guy J. Brown and Lickey's Coleman 1, located in the northwest corner of Section 79, proved dry at 2252 feet. This failure was drilled about 500 feet southeast of Trahan-Cole et al's Coleman 1, which developed oil showings in Canyon horizon at 2190-2209 feet, but failed to produce after drilling to 2285 feet.

Drilling Scheduled for Early Start on Glasscock County Unit

San Angelo, Texas.—Drilling operations are scheduled to be started during the current week on the unitized wildcat drilling block of Penn Oil Company and others, centering on the F. A. Habenstreidt-Younkers ranch in southwestern Glasscock County. This wildcat project is supported by favorable geology, and is also in a direct line with the southwest trend of the lime production in Howard-Glasscock County. Humble Oil & Refining Company has contracted to purchase an undivided half interest in the holdings of Penn Oil Company for approximately $50,000. The test is to be drilled 2310 feet from the north and east lines of Section 47, Block 36, T. & P. Ry. Survey, T-3-S. This section was unitized by Penn Oil Company, Honolulu Oil Company, Fuhrman Petroleum Corporation and The California Company. The remainder of the block has also been unitized by sections, representing a method of unitization introduced for the first time in Texas.

Crockett County maintains its leadership over all West Texas in volume of lease and royalty trading that has been conducted on a large scale for the past four months on the strength of several prospective deep tests to the Ordovician lime horizon. The latter oil and gas zone has established an enviable reputation through nine completions in the Big Lake field, and is particularly popular with the major companies because of yielding a quality of lubricating oil from the lower section that is rated as being on a par with best grade obtainable in Pennsylvania field. Work is in progress in unitizing about four sections of leases, centering on the border line of blocks "UV" and "WX," G. C. & S. F. Ry. Surveys, and location for the first test, which will probably be drilled below 8000 feet, is expected to be announced shortly. Companies that failed to gain adequate leases in this area have lately switched to royalty purchases. Superior Oil Company of California, owner of a 26,000-acre block to be tested in the Ordovician lime, The Texas Company and Humble Oil & Refining Company are reported as having bought royalty in the above area lately. The latter company is reported to have paid $15 per acre base for one-twelfth of the royalty interest under approximately 15 sections in the east portion of the J. S. Todd ranch.

Gulf Production Company's McElroy ranch leasehold on the Crane-Upton County line continues to yield flowing wells from the regular lime. This company's Crier-McElroy 9 was completed last week at 2820-2875 feet with an initial flow of 1080 barrels of 29.6 gravity (corrected) oil. Tubing has since been installed, and the well will be pinched to its proration allowance.

Texas Visible Oil Reserves Will Last Nine Years at Present Rate

(*Continued from page 44*)

record for the three major producing states and the United States, as follows:

Dry Hole Percentages

	Average 1911-15	Average 1916-20	Average 1921-25	Average 1926-30	Year 1931
Texas	31.0	29.0	32.0	40.0	26.0
Oklahoma	15.0	22.0	28.0	32.0	35.0
California	8.0	8.0	18.0	24.0	50.0
United States	18.0	19.0	24.0	30.0	30.0

Where the proportion of dry holes for the United States has increased by 50 per cent, measured by five-year periods, over the past two decades, and the proportions for Oklahoma and California have increased by 100 per cent and 200 per cent, respectively, the proportion for Texas has increased only one-third. Finding is gradually becoming more successful in Texas as compared with these other states.

Mr. Struth pointed out that Texas furnishes 20 per cent of all the oil consumed in the world, outside of Texas. His figures showed that Texas produces 39.1 per cent of the nation's crude oil and supplies 35 per cent of its output to consumers outside of its borders. Texas crude consumed by refineries in other states constitutes 12.8 per cent of United States consumption and 8.2 per cent of the world's demand for crude. Similarly, his figures showed that Texas contributes 23 per cent of the nation's refined oil requirements outside of Texas. The state produces 29.4 per cent of the nation's natural gas, 23.7 per cent of the natural gasoline; 24.7 per cent of the motor fuel and 23.6 per cent of the supply of all other refined petroleum products. Last year's crude production of Texas, constituted 24.4 per cent of the world's total oil requirements.

East Central Texas Field Notes

H. H. KING, ***Staff Representative, Fort Worth, Texas***

Adjustment of Pipe Line Outlet Brings About Connection Trades

Kilgore, Texas.—Shifting of well connections from the lines of companies complaining of overloads to the systems of purchasers that are under-supplied with connections has been an influential factor in stabilizing the East Texas crude situation. This swapping program is still in process. Indications are that all the purchasers will be taking the maximum production allowance of 72 barrels per well daily placed into effect 7 a.m., March 16, probably before the end of the week. Mid-Kansas Oil & Gas Company has arranged to swap 900 barrels to Tidal Oil Company and also 108,000 barrels of oil previously stored in The Texas Pipe Line Company's system. Tidal Oil Company is to deliver a similar volume of Mid-Continent crude now stored in Prairie Pipe Line Company's system, and will divert 900 barrels of controlled production in Illinois to the account of Mid-Kansas Oil & Gas Company. This exchange is of mutual advantage, as the latter concern has been bothered with a surplus of East Texas crude after taking care of the requirements of its affiliated refinery at Fort Worth.

Shell Petroleum Corporation has about completed work in relieving Magnolia Petroleum Company of 60-odd well connections in the Longview section. The former is asking six months contracts in signing up division orders. Pending the relief of surplus connections, Magnolia Petroleum Company has restricted takings from its own and outside connections to 65 barrels daily. Mid-Kansas Oil & Gas Company and British American Oil Producing Company have likewise followed the low schedule.

The committee of operators volunteering their services in providing pipe line connections for well owners were confronted with 10 applications at the regular meeting held here last week. Promises of relief for the entire group were made by various purchasers, according to J. G. "Jack" Pew, Sun Oil Company, Dallas, acting chairman.

Companies Taking on Connections

The most active companies in taking on new connections in the field includes: Shell Petroleum Corporation, Humble Oil & Refining Company, Sun Oil Company and Empire Gas & Fuel Company. Sun Oil Company recently arranged to buy from 3000 to 5000 barrels daily from British-American Oil Producing Company, and is taking in excess of 2500 barrels daily on open account from Panola Pipe Line Corporation (H. L. Hunt.) Sun Pipe Line Company's 10-inch line from the field to Beaumont, is now about loaded to capacity, since it also serves the properties of the Yount-Lee Oil Company.

Humble Oil & Refining Company is reported to have extended its contract to sell Gulf Pipe Line Company 5000 barrels of East Texas crude from April 1 to July 1, 1932. The original contract was made late last year, with deliveries being made to the latter in the field.

Mixing of East Texas crude gathered by Humble Pipe Line Company and shipped via Louisiana into Oklahoma with Mid-Continent grades for delivery to Middlewestern refineries via the Ajax Pipe Line Company's system and interlocking units is reported to have been terminated. Refiners found the East Texas crude unsuitable for making road oils even though representing only a small percentage of the total volume. Highway materials are an important by-product of most of the Middlewest plants served by Ajax Pipe Line Company, and asphalt base crude is usually insisted upon.

Refinery Operations Down

Refinery operations in East Texas have dropped to an average of less than 10,000 barrels daily, with eight plants inactive. Inability to book any appreciable volume of crude at bargain prices has been a factor in curbing these plant activities, while rigid enforcement of proration restrictions has also been discouraging to some of the plants. Southern Oil & Refining Company (L. H. Gray) are reported to be contemplating the addition of a 700-barrel capacity skimming unit to the small refinery operated at Reeds Switch, located on the I&GN Railroad between Kilgore and Overton.

Operations East Texas Field

Most active companies operating in Gregg, Rusk, Upshur and Smith Counties, comprising the East Texas oil field, are listed below, with total operations held by each, exclusive of completions, as of March 18, 1932:

Company—	Locations	Derricks and rigs	Active tests	T'tl. under-way	T'tl. producers
Humble Oil & Ref. Co.	5	22	17	44	504
Gulf Production Co. et al	5	5	26	236	273
Magnolia Petroleum Co.	2	7	5	14	255
Shell Petroleum Corp.	8	2	5	15	156
Sinclair Oil & Gas Co.	1	7	5	13	179
Sun Oil Company	1	9	10	20	130
Tidal Oil Company	16	8	5	29	125
Stanolind-Simms et al	6	4	4	14	121
Arkansas Fuel Oil Co.	1	7	2	10	99
Yount-Lee Oil Company	1	5	4	10	95
The Texas Company	3	6	1	10	84
Atlantic Oil Prod. Co. et al	13	6	8	27	*78
H. L. Hunt et al	1	1	3	5	76
Houston Oil Co. et al	.	..	..	..	59
East Texas Ref. Co. et al	4	1	3	8	61
Mid-Kansas Oil & Gas Co.	2	3	2	7	56
Empire Gas & Fuel Co.	1	1	..	2	39
Golding-Murchison Oil Co.	.	4	1	5	37
Barnsdall Oil Co. et al	2	2	4	8	35
Amerada Petroleum Corp.	.	1	2	3	32
California Pet. Corp. of Ven.	2	..	1	3	31
Prairie Oil & Gas Co.	.	..	2	2	29
British-American Oil Prod. Co.	..	1	1	2	20
Republic Production Co.	1	..	..	1	25
Total for 24 companies	75	102	111	288	2600
Miscellaneous companies	57	126	170	353	1909
Grand total	132	228	281	641	4509

*Exclusive of Cranfill-Reynolds Company's properties.

Producer Extends East Texas Field Mile North; Gassers Mark Southern End

LONGVIEW, Texas.—Addition of about one mile of productive territory to the north end of the East Texas field resulted from the completion of E. E. Eslick-M. T. Flanagan et al's H. F. Whitehurst 1, located on 20-acre lease, McKinney-Williams Survey, Upshur County, on March 20, with an estimated initial output of 10,000 barrels daily. Contrary to misleading depth information released when the well made drill stem test March 10, it is producing from regular Woodbine sand at 3612-28 feet, giving a sub-sea total depth of 3286 feet. Early reports placed the bottom of the hole at 3701 feet, or 3359 feet below sea level, thereby indicating the well may be producing from the same general horizon that has yielded a small producer in the Jamestown area for Cranfill-Reynolds Company et al. Completion of Whitehurst 1 affords the field an air-line length of approximately 38 miles between the above outpost producer and the gas wells on the south end.

The two prolific dry gassers on the Perry and Ras Lacy tracts tend to cut off the oil production trend to the south, but some operators are holding to the view that another oil area will be found beyond the gas belt. J. Earl Brown of Fort Worth and associates have moved in rotary rig to test this theory, having made location in the southeast part of the J. G. Arnold 128-acre tract, Wm. Christian survey, or about 6000 feet south of the gasser on the Lacy land. This test is about 2½ miles north of W. R. Ramsey et al's M. Kangerga 1, R. A. Allen survey, which reported traces of oil in top of Woodbine at 3790-3824 feet, then abandoned at 3883 feet last May.

Tyler, Texas.—Average cost of drilling and completing an oil well into lease tankage in East Texas is estimated at approximately $19,985.55, according to a survey prepared by scouts covering the field.

One of the most active of the major companies completes its wells for an average of $14,870.00, but is operating its own rotary rigs to attain this low mark, which includes $8,578.00 for materials; $2,522.00 for labor; $2,654.00 for supplies (fuel, water, rental on rig, supervision, etc.); and $1,116.00 for transportation.

A weighted average of well costs borne by independents that make turnkey contracts for the work and use second hand equipment wherever possible, is placed at $14,340.00 connected into lease tanks.

Another company of semi-major rating reported its average cost of completing wells into tanks at $22,334.00 each, with drilling awarded to contractors on a footage basis.

Rotary contractors in the field generally receive a flat rate of $2.00 per foot. However, some of the operators and companies have a flat price per hole, regardless of the depth, and such scale of pay usually figures less than the above average footage price.

Contractors are finding it difficult to compete on a cost per foot basis with company owned rigs, as the latter have sufficient volume of work to carry out a schedule over a period of months, and can obtain the services of the best talent to man and supervise the rigs.

Return of old pumping wells to natural flow at widely scattered points on the east side of the Joiner area, and also in a few instances in the original Kilgore area has attracted considerable attention among the operators. A marked change in the reservoir pressure situation is taking place in this section of the field, which has heretofore furnished the bulk of the pumpers. Many wells that have been threatening to cease flow have made substantial gains in pressure readings on tubing and casing gauges, while the required pumping period to lift the 72 barrel daily proration allowance has been generally shortened.

Attention has also shifted lately to a gradual increase in the percentage of water showing in some of the older wells on the west flank of the field. However, the total number of wells showing water have not gained any appreciable extent, according to G. E. Martin, chief inspector for the field. Martin estimates that current water production in the entire field is only about 3250 barrels daily; however, some of the wells that have made high percentage of cut oil are temporarily off production.

This rapid change in the pressure situation is generally beneficial to all operators for the time being. It has also given rise for much speculation as to whether the forecasted water drive is gaining momentum and encroaching upon the lower section of the Woodbine without making its presence known by reason of all wells, including new completions, flowing open for a very brief period. Coning and channelling of the sand have been eliminated by rigid rules.

The Kilgore area contributed an unusual number of small producers during the past week, but these exceptions to the general rule of big wells were located near the east side. Geo. I. McGee and Everts Drilling Company's Knights of Tabor Lodge 1, located on a half acre site in the Hy. Hobson survey, flowed at rate of 250 barrels daily when tested at 3742 feet, and failed to improve when carried through the sand into Georgetown lime at 3766 feet. Plans are to shoot this well. Shell Petroleum Corporation's T. Wells 1-B, Daniel Clark survey and a north offset to L. G. Priest et al's producer, has failed to show for a commercial well after more than 10 days swabbing at 3774 feet, and may be shot as a final resort in making a pumper.

Sinclair Oil & Gas Company's Major Kennedy 1-B, located in the northwest part of the D. Clark survey, flowed 35 barrels oil per hour via open casing from broken sand and shale at 3647-3714 feet. Degener & Company, Inc.'s, S. Belle 1, located on a two-acre site near Kilgore townsite, flowed seven barrels oil per hour on open tubing test from broken pay at 3539-3585 feet.

Midget Well

Another midget well was added to the Kilgore townsite group when Solar Exploration Company's Z. Elder 1 gauged 12 barrels of oil on 15 minute flow through three quarter inch choke on 1¼-inch tubing from sand at 3558-3580 feet. This well was cased with three-inch pipe cemented at 3524 feet.

G. Clint Wood, Wichita Falls operator, and associates' J. B. Irwin 1, located on 35-acre lease on the west edge of the J. Lindley survey, near Overton, was completed with an initial rating of 120 barrels of oil per hour, open tubing, from sand at 3817-3820 feet. This well has a sub-sea depth

of 3324 feet, and is near wells that have been showing water for several months.

B. F. Finley and Natalie Kinsey's C. C. Crews 1, located in the east central part of the L. Perkins survey, and in the northwest part of the Kilgore area, Gregg County, tested salt water in sand at 3681-3688 feet, and will be abandoned. On the north line of the same survey, D. M. Hester et al's Crews 1, was completed in sand at 3676-3681 feet, but results of the initial gauge were not obtainable. This well has a sub-sea depth of about 3331 feet, and is a south offset to Sun Oil Company's Walker 1, which is pumping 80 per cent water in making its proration allowance.

H. R. Smith, Inc., et al's D. M. Peterson 2, Kilgore area, failed to flow when given swabbing test in sand at 3528-3551 feet, with the hole bottomed in shale at 3639 feet, and will be placed on the pump.

East Texas Production

Official data on proration enforcement in the East Texas field, as compiled each day by the military authorities, is listed below for the past week:

Period ending 7 a.m.	Total wells completed	Wells reporting prod.	Wells off prod.	Wells not reporting	Pine line runs	Total prod.	Daily average per well
March 14	4473	4111	45	317	118,041	305,850	74.1
March 15	4488	4301	46	141	312,326	318,104	73.9
March 16	4500	4329	49	122	354,594	321,447	71.6
March 17	4509	4339	42	131	391,766	307,550	*71.1
March 18	4523	4230	51	242	304,938	310,048	73.3
March 19	4532	4327	41	164	.....	306,396	70.8
March 20	4538	4295	52	191	.....	391,921	72.1
March 21	4548	4361	56	131	.....	302,252	69.3

*Proration allowance cut from 75 to 72 barrels per well daily 7 a.m., March 16.

Note—Pipe line runs include receipts plus crude used as fuel and road oil and for washing in wells.

Lease Buying Active Over Wide Area Seeking Woodbine Production

Tyler, Texas.—Acquisition of blocks of wildcat acreage and general checkerboard protection through areas in line for exploration work by major companies and many independents is on the increase in Central and East Texas. Concerns that rank among the leading owners of proven oil acreage in the East Texas field are among the most aggressive lease purchasers. Purse strings were drawn tight by these companies early last spring when it became apparent that the East Texas field would deluge the crude market and crush the price structure for an indefinite period. Successful application of proration rules that promise to withstand court attacks has indicated that the field will be held to a reasonable production level, and that conditions justify a renewal of the search for new fields. The recent release of appropriations to acquire additional acreage is reflected by the volume of trading and number of companies participating.

Lease buying is widely scattered, and mostly involves long shot propositions. Purchases are made with expectations of oil production in the Woodbine sand. Many of the buyers are closely observing blocking activities of others that involve drilling, and are taking protection leases within and adjacent to such blocks having merit from a geological standpoint. The known interior salt dome areas, centering on Henderson, Anderson, Cherokee and Van Zandt Counties, have participated in recent lease deals, then others are partial to blocks situated out in the Sabine Basin and west of the East Texas field.

The Woodbine belt in the fault zone needs a new oil or gas strike to restore old-time interest. The most likely stimulant is the wildcat test spudded March 13 in northeastern Rains County by Geo. Greer, Wm. C. McGlothlin et al on the Roy Harper 100-acre tract, David Rose Survey. These operators have virtually cleared the cost of their 12,000-acre block and a test to 4000 feet, or the Georgetown lime, through the sale of an undivided one-fourth interest to independent companies. Regardless of the final outcome of this wildcat several tests are apt to be drilled in the general area should any appreciable amount of encouragement result, as a faulted condition prevails and complete elimination is not possible with the one hole.

More agressive lease buying has been waged lately by Humble Oil & Refining Company, Gulf Production Company, Shell Petroleum Corporation, Sun Oil Company and The Texas Company. Pure Oil Company is listed as one of the new additions to the list of buyers after having been more or less dormant since its discovery and establishment of a major oil field at Van.

Cherokee County continues to be a popular spot with the wildcatters, and majors are renewing old acreage as well as adding to their protection in desirable areas. Considerable buying has taken place recently by this group in vicinity of a 5300-foot wildcat soon to be started by Tom E. Cranfill and Eugene Germany, who operate in the East Texas field as Pilot Oil Company, and associates. The latter are to drill in southwestern part of Cherokee County and about 10 miles southwest of Rusk, having made tentative location on the north 150 acres in the F. W. Fulgram Survey. In the eastern part of Cherokee County, and southwest of dry gas production on the lower end of the East Texas field, C. M. Joiner and associates have assembled a block of about 4200 acres. Plans are to start a test for the Woodbine sand before May 1 on the Martin farm, Lee Baker, or D. Parker Surveys. Pure Oil Company has taken five-year lease on the J. E. Kennedy 104-acre tract, and Shell Petroleum Corporation covered the J. F. Cowan 105-acre farm, both being in the Isaac Kendrick Survey and involving $2.00 per acre bonus and $.50 per acre rental.

Acreage donations by Amerada Petroleum Corporation, Humble Oil & Refining Company and others has paved the way for the possible drilling of one or two more tests in the Kelsey dome area, southwestern Upshur County. Two failures were recorded a few weeks ago for this dome, which has been in the limelight by reason of abnormally high structural conditions logged by the former concern's Wade 1, J. H. Fields Survey, which was abandoned October, 1929, at 6153 feet. Gillette-Tarr-Potter and the Pilot Oil Company are to drill the new test on the west flank of the dome.

San Antonio, Texas.—Magnolia Petroleum Company's A. A. Seeligson 1, 15 miles south of Ben Bolt, Jim Wells County, encountered a sand showing oil saturation at 4930-33 feet. A test was attempted but the drill stem collapsed. As soon as a new drill stem arrives the test will resume.

This well is located in the northwest corner of Lot 5, Block 11, A. Ramirez Survey.

This well has a showing at 3413-32 feet, which showed oil, but made some salt water when drilled in.

South Texas Field Developments

EARL POST, ***Staff Representative, San Antonio, Texas***

▼ ▼ ▼

Two Guadalupe County Wildcat Tests Find Austin Chalk Dry

San Antonio, Texas.—Hopes for oil production from the Austin chalk have faded in two wildcat tests in Guadalupe County. Darst Oil Company's W. Hamilton 1, H. J. Williamson Survey, found the chalk low and dry after topping it at 2535 feet. The well is one-fourth mile east of Tidal Oil Company's Seligman 1, which developed oil production from the chalk about two years ago, but which was only a short-lived producer. Upon being deepened to the Edwards lime the Seligman well tested sulphur water, and no important tests have been sunk in the area since then.

The other Guadalupe County wildcat being drilled now is W. J. Walton and Tidal Oil Company's Blosch 1, which found the Austin chalk dry at 2432 feet. It is in the Valentine Bennett Survey, nine miles south and two miles west of Seguin, and several miles from Tidal Oil Company's Seligman 1.

Luling Oil & Gas Company's J. D. Brown, a wildcat in the C. Hall Survey, near Kingsbury, topped the Austin chalk at 2072 feet. It drilled the Edwards around 2500 feet, but no announcement has been made of the exact depth of the horizon or its outcome.

In the Camp portion of the Darst Creek field, Humble Oil & Refining Company's Sue E. Denman 4-C, William Arrington Survey, is drilling below 276 feet.

Plan for Important Test West Side Pettus Field Follows Acreage Deal

San Antonio, Texas.—Henderson Coquat, Three Rivers, has taken over Barnsdall Oil Company's Leroy Roberts lease, Cosden portion of the Pettus field, Bee County, on a development basis. The contract calls for development of the 428-acre lease on a 50-50 basis. Location has been made for the first well, 330 feet from the north and east lines of The Texas Company's Gremmel lease, in the western portion of the field, John Pace Survey, and material is to be moved on immediately.

Barnsdall Oil Company has one producing well on this lease, which has produced more than 45,000 barrels since completion in July, 1930. No other development work was done by this company.

The importance of the new test is that it will tend to show the connection, if any, between the Cosden area, west of the Pettus townsite and the southwestern portion of the field discovered by Buck Oil Corporation. There are no dry holes on a north and south line between these areas, but to date there have been no wells drilled.

The second important well is Pettus Oil & Gas Company's Mauldin 2, located 647 feet north of the south line and 150 feet east of Medio Creek in a 66-acre tract, George A. Kerr Survey. The Pettus concern was formed by J. S. Mauldin, fee owner of the land. The well is 493 feet north of Mauldin's first test, which showed 125 pounds pressure and a little mud and gasoline at 3847-54 feet on a drill stem test in March, 1930. It showed more gas when deepened to 3862 feet. The well finally was abandoned at 3930 feet when it cored a sand 3909-23 feet and showed 360 feet of mud on a drill stem test in 15 minutes.

T. B. Slick Estate's George A. Ray 5, east offset to Ray 3, George A. Kerr Survey, southwest extension of Pettus field, was completed as a 120-barrel producer, but increased to 300 barrels after being worked over. The sand is logged at 3886-91 feet.

McFadden District Being Watched For Probable Important Extension

San Antonio, Texas.—McFadden district of Refugio and Victoria Counties is being closely watched for several important extensions, which will further define the oil and gas structures.

Humble Oil & Refining Company's M. V. O'Conner 2, 933 feet north and 75 degrees west of O'Conner 1, and in the J. Keating Survey, Refugio County, is drilling at 2369 feet in shale. The well had a sand at 2232-40 feet, which tested for a gasser. A string of 13⅜-inch casing was then set at 2314 feet. It is headed for the 4200-foot pay.

Several miles northeast, The Texas Company's A. M. McFadden 4, J. M. Rine Survey, Victoria County, is drilling below 1000 feet. This test is 2800 feet north of the McFadden 3, an oil producer.

The most northeasterly well in the field is T. B. Slick Estate's McFadden 2, which is located in the southwest corner of the 8313-acre lease in the J. Varian Survey. It is 3500 feet north of McFadden 1, which is a gasser in the 3600-foot horizon. This well has set 1100 feet of surface casing and is preparing to resume drilling.

San Antonio, Texas.—Edwin M. Jones is making a real deep test out of Josephine Mitchell 1-B, located in the northwest corner of the 200-acre tract in the town block district of the Refugio field. At last reports, the well was down 7462 feet, apparently headed for a much greater depth. The rig on this well is said to be the largest ever used in Texas.

The deepest well ever drilled in the Refugio field was Mission Drilling Company's Moss Heard 1, on Block 111, Refugio townsite, which was abandoned at 8120 feet on October 29, 1930. Incidentally, this was the deepest well ever drilled in Southwest Texas.

San Antonio, Texas.—Five active tests are reported in the Saxet field, near Corpus Christi, Nueces County. Houston Oil Company's E. McGregor, 150 feet from the east and 350 feet from the south line of the 135-acre tract in Section 311, has set casing at 4254 feet, has a sand at 4259-65 feet, and is preparing to complete.

The only wildcat in the county is John F. Camp and Stanolind Oil & Gas Company's King 1, which is making hole at 2525 feet. The well is 600 feet from the north and west lines of Section 23 in the King Farm lot subdivision, six miles north of Agua Dulce.

Gulf Coast Field Developments

JACK LOGAN, ***Staff Representative, Houston, Texas***

▼ ▼ ▼

Two Developments Heighten Montgomery County Interest

Houston.—Although a major portion of interest in production developments in the Texas sector of the Gulf Coast has focused on Heep Oil Corporation's R. L. Cartwright 1 in Montgomery for the past three weeks, two developments of the week will cause the rank wildcat to be even more an object of curiosity, possibly until it is completed as a failure or a producer.

The first was confirmation by both parties March 22 of a deal whereby Humble Oil & Refining Company took over properties of Strake Oil Corporation in the new Montgomery County field near Conroe. Heep Oil Corporation's wildcat, located a mile and a quarter northeast by east, roughly, of the discovery well drilled by G. W. Strake, was located on a hunch that the play would travel that direction. Humble Oil & Refining Company's entrance into the play will cause other majors to place more importance on the prospective field.

The second development acting as a magnet for oil scouts during the week was the widespread rumor that Heep Oil Corporation had encountered a sand "somewhere below 4000 feet" in Cartwright 1, having a tendency to justify working of geophysical crews by Humble Oil & Refining Company and Gulf Production Company in territory north and east of the Strake well and in San Jacinto and Polk Counties. The scouts expected Heep to test during the week.

Two Barbers Hill Wells May Set Salt Penetration Records

Houston.—Three drilling wells at Barbers Hill which are more or less wildcats on account of their positions with reference to the known outline of the salt plug, are expected to contribute unusually interesting information this spring. Two of them possibly will penetrate a greater thickness of salt than any wells in the field have penetrated thus far. The third possibly will establish a pronounced indenture in the dome on the south flank.

Texas Gulf Producing Company's Barber A-7, on the northwest flank of the dome, is 405 feet in toward the dome from the same operators A-6, which had salt from 3581 to 4360 feet. Barber A-7 is fishing for a cutter at 2216 feet in rock formation, having encountered no salt at that depth. If the funnel theory of the shape of the salt plug at Barbers Hill holds good, this test will penetrate substantially more than the 779 feet penetrated in Barber A-6.

Rio Bravo Oil Company's A. M. Fisher 3, on the west flank of the dome, will either extend the production limits into the west flank of the dome or define the plug's extension in that direction. Number 2 well on the same lease, located 300 feet west and 335 feet north of Fisher 3, was completed as a producer without encountering salt.

Mills Bennett Production Company's Gulf Fee B-1, located on the south flank of the dome is 550 feet north-northwest into the dome from Yount-Lee Oil Company's Chambers County Agricultural Association 6, the nearest producer, which was completed at 5002 feet without logging salt. Number 5 well on the same lease, however, and located 500 feet southeast of the above well of Mills Bennett Production Company, topped salt at 2462 feet and was abandoned in it at 2570 feet.

Cullen and West Continuing Development at Rabb Ridge

Houston.—All rumors to the contrary notwithstanding, it looks for the present as if Cullen and West Production Company will go right ahead with Gulf Production Company in development of leases at Rabb Ridge, the recently discovered field in Fort Bend County which is jointly operated by the two.

The company's George 3, located 1000 feet east of George 2 in the John Rabb Survey, is reaming to set casing after having a showing of oil in sand at 5130-42 feet. Lockwood B-2 is a derrick, while H. P. Lockwood 3 is rigging up as a north offset to George 3.

Gulf Production Company's T. R. Booth 1, 922 feet from the west and 475 feet from the south lines of the John Rabb Survey, has passed the interesting depth of 4460 feet in a sand and shale, and its completion or abandonment is expected within a fortnight.

Calcasieu Oil Company Producer Extends East Hackberry 1400 Feet

Houston.—Calcasieu Oil Company extended East Hackberry field of Cameron Parish, Louisiana, about 1400 feet in a southwesterly direction last week by completion of Unsurveyed Island 1 at 2875 feet for an initial production of 2215 barrels.

Unsurveyed Island 1 is producing from a lime rock topped at 2709 feet through a string of 4½-inch casing with one joint of 70 mesh screen on bottom. The oil is pipe line grade, 23.9 corrected gravity, and has a temperature of 65 degrees. Pressure on the three-quarter-inch choke at time of completion gauged 335 pounds.

Houston.—United North and South Development Company's Stoddard 1, wildcat well in the Buckeye district of Matagorda County, is reaming to set 6⅝-inch casing after having cored an oil sand at 7848-53 feet.

Houston.—Frank A. Yeager of Galveston has encountered showings of oil at 1402 and 1441 feet in L. Hoes 1, a wildcat located 2½ miles southwest of Rockdale in Milam County. Preparations are being made to put the well on the pump.

Greeley, Colo.—Test of Greeley Oil Company on the Greasewood Flats structure, which did not develop commercial production, is to be abandoned at 6691 feet. Such production as was found was in the Muddy sand.

First tests to be started in the field this spring will probably be those of the Platte Valley Petroleum Company, which has drilling contract due; three locations are spotted.

Tulsa Society of Young Engineers Plans Regular Meetings, Programs

Tulsa.—The Society of Young Engineers met here Monday evening, March 14, at which time it elected William Roever, Continental Supply Company, chairman; Warren Baker, The Petroleum Engineer Publishing Company, vice-chairman; and Jack French, Continental Supply Company, secretary-treasurer. Harold Adkison, secretary of the Mid-Continent Section, Production Division, American Society of Mechanical Engineers, was selected to act as chairman of the publicity committee.

The Society of Young Engineers, is, as its name implies, an organization sponsored by the Mid-Continent Section, Production Division, American Society of Mechanical Engineers to promote more activity among the younger engineers employed in the oil industry of the Mid-Continent area. After a business session, the society heard H. W. Manley, petroleum engineer for Barnsdall Oil Corporation, give a talk on possible markets for propane and ethane which are now handicapped economically by their vapor pressures which greatly exceed the maximum allowed under present shipping rules. At the regular monthly meetings it is planned to have papers presented by members of the organization and guest speakers from the ranks of the older engineers. The next meeting will be held Monday, April 4, the program to be announced within the next few days.

San Antonio, Texas.—Evans and Gant's Jeff Love 2, Section 1593, Kerr County, has resumed drilling after cementing 5 3/16-inch casing at 5879 feet in brown lime. The well is 150 feet from the south and west lines of the section, one-half mile southeast of Love 1, Love Ranch district.

Love 2 has had a series of showings, the last and most important being from 5835-39 feet. Deepened, the well showed considerable water and casing was reset to cut off the flow.

San Antonio, Texas.—Coquat and Phillips Petroleum Company's Sanger 2, Live Oak County, is testing a sand at 2461-74 feet. The well first cored the sand at 2461-72 feet, showing heavy saturation in the last five feet. A drill stem test showed four fourbles of mud and oil. It was sunk two feet, testing six fourbles of mud, oil and a little salt water. The second test was not considered good, and a new test will be made.

This well showed 700 pounds pressure from the top of the Jackson at 2071 feet to 2095 feet. A little salt water was present.

Sanger 2 is 1280 feet northwest of Sanger 1, which topped the Jackson at 2150 feet, about 30 feet lower, figuring elevations. Sanger 1 showed several sands, but nothing of interest, and was abandoned in January at 4007 feet.

Location of Sanger 1 was given as follows: starting at the most westerly southwest corner, go 2640 feet northeast, thence 150 feet from that line to the southeast at right angles. It is in the Thomas Welch Survey No. 350, Abstract 850, and in the southwestern portion of the county.

San Antonio, Texas.—Two more locations have been made in the Government Wells field of Duval County. They are Duval Oil Corporation's Bishop 9 and Tarver and Thomas' Bishop 7, both of which are located on Survey 135. Humble Oil & Refining Company's P. E. White 1, Section 58, the farthest north well in the field, is drilling at 1695 feet.

LOUISIANA-ARKANSAS

▼ ▼ ▼

Week's Four Completions At Zwolle Are All Failures

Shreveport.—Zwolle went without a new producing well last week, all five of the completions there being failures. Four new locations were announced. In the southeast part of the field W. F. Lacey abandoned McNeely 2, NE NE Section 14-7-11, as a dry hole at 2558 feet. In the southwest offshoot of the Zwolle townsite pool W. S. Smith and associates' Hale 1, Section 1-7-13, which had stood full of oil at 2065 feet, and was deepened with cable tools, was abandoned as a salt water hole in the Blossom sand at 2534 feet. Three attempts to extend this part of the field southwest were formally abandoned as failures. Southland Drilling Company's F. Martinez 1, Section 11-7-13, salt water, 2525 feet; C. Patterson 1, Section 2-7-13, salt water, 2534 feet; and The Texas Company's Giaque B-1, Section 10-7-13, salt water, 2560 feet.

More than two miles north and slightly east of the original Blue Lake (West Zwolle) field, Broderick and Calvert made location for Costella 1, SE NW Section 2-7-14. Hall and associates' Williams 1, Section 3-7-10, where derrick is up, is more than three miles east of production in the southeast part of Zwolle. Lacey made location for McNeely 3, NE NE Section 14-7-11, and Jack Lanier, for Petty 1, NE SE Section 11-7-11.

R. L. Gay, Trustee, successfully landed and cemented seven-inch OD casing at 4725 feet, last week in Long-Bell A-1, NW NW Section 10-8-13, five miles north of Zwolle production, which recently showed light oil in the oolitic lime of the Glen Rose, at total depth of 4772 feet. Casing was cemented by Halliburton Oil Well Cementing Company, using 300 sacks of cement. Loring Oil Company is reaming out hole in Bowman-Hicks 18, SW NW Section 15-7-12, with total depth of 4662 feet.

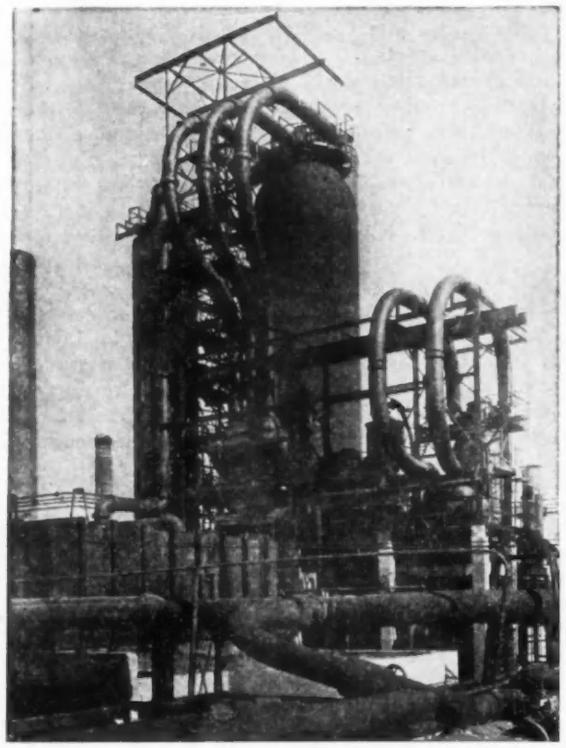
Jackson, Miss.—James A. Alexander, Trustee's, Ridgeway and McGehee 1, NE SE Section 1-5-1e, Rankin County, a north edge test in the recently opened northeast sector of the Jackson gas field, blew out early last week while coming out of the hole, with 12 fourbles of drill stem still in the hole, and got out from under control. Later in the week the well was killed and arrangements were being made to pull the drill stem. Total depth of this test, whose gas output was estimated at 40 million cubic feet daily, is 2326 feet; Midway chalk was logged at 2322 feet; elevation is 270 feet (approximate.)

Jackson had no completions or new locations during the last week.

Vernon, Ala.—P. J. McAlpine, drilling contractor, late last week started building derrick for Woodward 1, NW NW NW Section 22-15s-16w, a wildcat in Lamar County, Alabama, a few miles from the Mississippi line and about five miles east of Arkansas Natural Gas Corporation's Rye 1, in Monroe County, Mississippi, which showed much gas at the 2700-foot level. The present operators have a block of several thousand acres. The location was picked by H. D. Easton, petroleum geologist of Shreveport, who picked the location for the discovery gasser in the Amory gas field. Present location is slightly south of a line from the Amory gas producers to Fayette County, Alabama, where many years ago a number of shallow tests produced some gas.

GULF

Modern Methods Make Modern Gulf Products



the largest Atmospheric-Vacuum Still ever built.

Paraffine and Coastal Crudes

Gasoline · Lubricating Oils

Naphtha · Gas · Oils

Wax · Petroleum Coke

Cylinder · Engine · Cordage

GULF REFINING COMPANY

General Sales Offices: PITTSBURGH, PA.

Completions for Past Week in U. S. Fields

▼ ▼ ▼

TEXAS

CENTRAL EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
JOINER AREA—		
Golding-Murchison Oil Co., W. D. Kinney (336-ac) 8	4000	3672
Great Eastern Oil Co., E. B. Alford (10-ac) 1	2500	3741
Gulf Prod. Co., W. O. Alford (157-ac) 1	2500	3722
Haynes Drlg. Co., J.T. Browne (40-ac) 5	8000	3741
Humble O&R Co., J. R. Box (125-ac) 5	8500	3787
C. A. Brightwell (44.9-ac) 4	10,000	3733
K. O. T. Oil Co. & Rudman, S. S. Cook (5-ac) 1	9000	3737
Gordon Macmillan, Trustee, et al, M. A. Thrash (12-ac) 2	8000	3760
John Mabee, Inc., et al, W. P. Brett (40-ac) 3	7000	3707
M. H. McMurray et al, A. D. Blackwell (22-ac) 3	10,000	3677
Ortiz Oil Co. (Staley-Wynne), M. M. Hale 2	6000	3727
Pine Grove Oil Co., S. S. Cooke 1	9000	3735
Sinclair O&G Co., A. S. Jarvis (266-ac) 9-A	8500	3671
Dora Wright (162-ac) 10	8500	3750
Sunbar Corp., A. P. Finney (62-ac) 4	3000	3716
C. K. West et al, J. Cole 1	9000	3772
G. Clint Wood Drlg. Co., J. B. Irwin (35-ac) 1	9500	3820
KILGORE AREA—		
Arkansas Fuel Oil Co., M. B. Hughey-Ross (220-ac) 2	6500	3563
Atlantic Oil Prod. Co.-Byrd & Frost, Inc., M. B. Hughey (100-ac) 4-B	12,000	3587
Byrd & Frost, Inc., M. B. Hughey (100-ac) 2	9000	3607
Degener & Co., Inc., S. Belle (2-ac) 1	250	3585
East Texas Refg. Co., A. Givens (20.39-ac) 2-B	11,000	3650
Empire Gas & Fuel Co., V. L. Taylor (40-ac) 1	7500	3712
Everts Drlg. Co., C. O. Christian 2	7500	3775
Gulf Prod. Co., W. Florence (147-ac) 7	9000	3723
S. Hilburn (80-ac) 13	8000	3535
H. Sexton (54-ac) 1-A	8600	3670
Humble O&R Co., Dora Thomas (172-ac) 2	1500	3604
Thos. D. Humphrey et al, A. Spear (23-ac) 4	7500	3580
Invincible Oil Co., Williams-Register 2	9200	3663
Magnolia Pet. Co., Sam Carr (100-ac) 4	12,000	3453
Republic Prod. Co., Wm. Clayton (60-ac) 2	15,000	3617
J. H. Scoggins (136-ac) 4	7500	3692
Sells Petroleum, Inc., E. Sibley (24-ac) 2	13,000	3603
Shell Pet. Corp., M. H. Bivins (80-ac) 4-A	9200	3618
M. H. Bivins (120-ac) 2-B	10,500	3630
Silver Star Oil Co. (was H. P. Key) J. A. King 3	6000	3659
Sinclair O&G Co., M. Kennedy 1-B	2000	3714
J. E. Lawther (317-ac) 3	8000	3585
Skelly Oil Co., I&GN Ry. 1	8000	3638
Solar Exploration Co., Z. Elder 1	8500	3580
H. R. Smith, Inc., D. M. Peterson (6-ac) 2	300	3639
Stanolind O&G Co., Wm. Clayton (50-ac) 2	10,000	3594
Sun Oil Co., G. Reese (124-ac) 1	10,000	3661
Wheelock & Collins, Dick Wells (220-ac) 8	7000	3677
Weaver-Crim Corp., Ben Laird 9	12,000	3633
Tidal Oil Co., M. G. Barton 7	15,000	3570
LONGVIEW AREA—		
Alco Royalty Corp., R. K. Johnson (20-ac) 2	3000	3615

For Tabulation and Comparison See Market Section

Company, Well and Location	Initial Production Bbls.	Depth
Amerada Pet. Corp., Continental Bank (102.3-ac) 2	9600	3629
Arkansas Fuel Oil Co., D. B. McPherson (72-ac) 4-B	9100	3537
Atlantic Oil Prod. Co., J. W. Bacle (30-ac) 2	11,000	3681
Barnsdall Oil Co., M. Adams (102½-ac) 6	12,000	3680
California Pet. Corp. of Ven., C. B. Johnston (22-ac) 2	9000	3595
Columbia O&G Co., J. B. Doby (39-ac) 2	8000	3591
Deep Rock Oil Co., H. Pritchard (210-ac) 3	10,000	3566
East Texas Ref. Co., T. W. Tuttle (55-ac) 2	11,000	3586
E. E. Eslick & M. T. Flannigan, H. F. Whitehurst (20-ac) 1	10,000	3628
Fain-McGaha Oil Corp., W. A. Bauknight (53-ac) 4	12,000	3579
F-H-E Oil Co., B. C. Christian (87-ac) 7	9000	3669
Galvez Oil Corp., W. W. Holland (45-ac) 2	12,000	3677
Gulf Prod. Co., Lacy-Snyder (75-ac) 6	12,000	3534
Heyser & Heard, Heineman (45-ac) 4	9600	3689
Jones-O'Brien, Inc., J. H. McHaney-Loeb (39-ac) 3	10,000	3556
W. W. Lechner & Hubbard, J. M. Tuttle (25-ac) 3	8500	3542
Selby O&G Co.-Lewis Prod. Co., L. C. Ingram (80-ac) 4	12,000	3564
Snavely 4-C	8600	3588
H. S. Moss et al, G. B. Tenery (10-ac) 2	10,000	3590
B. F. Phillips et al, Fee 3	13,000	3600
Red Star Oil Co., M. Lemaire (25-ac) 4	10,500	3616
Shell Pet. Corp., Oliver Lockett (25-ac) 1	12,000	3669
Boston Moore (50-ac) 1	11,000	3608
G. W. Richey (61-ac) 8	15,000	3599
E. L. Smith Oil Co., E. E. Anderson (10-ac) 1	12,000	3643
Tidal Oil Co., J. J. Castleberry 6	2500	3610
A. F. Sheppard 6	10,500	3644
VAN FIELD—		
Pure Oil Co., W. E. Morris (65.67-ac) 2	50	2974
B. Russell (81½-ac) 2	*	2993
Fletcher B. Smith (80-ac) 10	8500	2919

SOUTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BASTROP COUNTY—		
Marts & Beaven, Wm. Bahm 2	*	1604
BEE COUNTY—		
T. B. Slick Estate, G. A. Ray 5	300	3891
BLANCO COUNTY—		
Hicks et al, Specht & Wiedner 1	*	1635
KENDALL COUNTY—		
Borgett et al, W. Haag 1	*	1250
KLEBERG COUNTY—		
Joiner et al, Finnegan 1	*	4007
MAVERICK COUNTY—		
I. N. Boicourt, Bandera School Land 2	*	2284
Texas Gas Utilities Co., Chittim 8	*	4876
McMULLEN COUNTY—		
V. G. Schimmel, Hale 2	*	1500
STARR COUNTY—		
Bennett Oil Co., Seabury 1	*	470
Quien Sabe O&G Co., Kusch 2	*	253
Ed Sullivan, A. K. Bass 1	*	602
J. A. Tarver, A. K. Bass 1	*	556
ZAPATA COUNTY—		
Borgan & Belsher, M. Garza 1	*	2010
SR & C Oil Corp., Montemayor 6-D	*	1479
Winch & Billings, J. Bustamante 10	75	1478

NORTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ARCHER COUNTY—		
Guy J. Brown & Lickey, W. M. Coleman 1	*	2252
United Producers Co., Logan 1	15	1215
CLAY COUNTY—		
Roy C. Ling et al, Wade 1	*	3527
JACK COUNTY—		
Texas Plains Oil Co., Wright 1	*	922
WICHITA COUNTY—		
Chas. A. Daubert et al, Dobie 1	*	1087
Mid-Continent Hold. Corp., Burnside 1-D	*	3123
WILBARGER COUNTY—		
Bowman Drlg. Co., Johnson 1	*	2159
YOUNG COUNTY—		
Beard & Seaberry, Cullers 1	40	570
O. Bratcher & King Roy. Co., C. L. Lowe 1	†	1000
Fain & McGaha Oil Corp., Weems 1	*	604
Snoddy & Perry, Husted 1	*	902
F. E. Webb et al, Robinson 1	*	750
D. L. Wolf et al, Wolf 3	75	894

CENTRAL WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BROWN COUNTY—		
Shead et al, W. F. Curry 1	*	1303
PALO PINTO COUNTY—		
Dunkell & O'Donnell, Simmonds 1	¶2-100	3015
Prairie O&G Co., M. Briggs 1	*	1802
THROCKMORTON COUNTY—		
J. D. Barton et al, H. A. Wilhelm 1	10	741

TEXAS PANHANDLE

Company, Well and Location	Initial Production Bbls.	Depth
CARSON COUNTY—		
Texoma Nat'l Gas Co., Gores 1-G	¶17½	2680
GRAY COUNTY—		
Skelly Oil Co., H. Schafer 24	300	3256
Sullivan & Ochiltree, Morse 1-A	20	2880
HUTCHINSON COUNTY—		
H. Stekoll et al, Whittenburg 5-B	250	3028
MOORE COUNTY—		
Texoma Nat'l Gas Co., Coon 4-M	¶19	3040

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
CRANE COUNTY—		
Gulf Prod. Co., Crier-McElroy 9	1080	2875
IRION COUNTY—		
Straughan & Adkins Bros., W. Lee 1	*	1505
LOVING COUNTY—		
Harry Adams Drlg. Co., J. J. Wheat 1	80	4403
Philips Pet. Co., Jim Wheat 3	200	4331
Slack et al (was F. H. Meyer), W. B. Lind 1	35	4265

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
BARBERS HILL FIELD—		
B. B. McDaniel, J. F. Wilburn 5	685	4325
The Texas Co., Wilburn 7, (wo)	51	4422
Wilburn 8 (wo)	70	4407
LOST LAKE FIELD—		
Pure Oil Co., Mayes 14	538	2819
MATAGORDA COUNTY—		
Duval Texas Sulphur Co., Smith 3	*	1787
PIERCE JUNCTION FIELD—		
Rio Bravo Oil Co., Settegast 21A (wo)	150	4315
Settegast 23A (wo)	900	4160
Navarro Oil Co., Tex. Exp. Dooley 16	70	4725
SARATOGA FIELD—		
Rio Bravo Oil Co., Cotton 130A	50	530

LOUISIANA GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
EAST HACKBERRY FIELD—		
Calcasieu Oil Co., Unsurveyed Island 1	2215	2875
LAKE PELTO FIELD—		
The Texas Co., State Lake Pelto 5	*	2305

ARKANSAS

Company, Well and Location	Initial Production Bbls.	Depth
UNION COUNTY (Smackover)—		
Arkansas O&G Co., Alderson 1, 31-17-15	35	2190

NORTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
SABINE PARISH (Zwolle)—		
W. F. Lacey, McNeely 2, 14-7-11	*	2558
W. W. Smith et al, Hale 1, 1-7-13	*	2534
Southland Drilling Co., F. Martinez 1, 11-7-13	*	2525
C. Patterson 1, 2-7-13	*	2534

CALIFORNIA

ATHENS-ROSECRANS—		
Union Oil Co., Howard Park 24	*	4700
POTRERO—		
Intercoast Oil and Transport Co., No. 2, 28-2-14	*	1045
MT. POSO—		
A. S. Mayes, No. 2, 36-27-28	*	1788

OKLAHOMA

CARTER COUNTY—		
H. L. Sturm and Gant's Hooks 1, sw c 18-1s-2w	1250	1853
CREEK COUNTY—		
Magnolia Pet.'s Williams 10, se c sw sw 3-16-7e	¶3	2625
H. E. Dowd et al's McIntoch 1, nw c ne nw 13-17-11e	¶¼	1042
Swift et al's Nave 1, se c nw 1-18-8e	35	2386
Gled Oil Co.'s Hamilton 3, ne c nw ne 29-19-9e	200	2125
Roy Dean et al's Lashley 1, nw c 19-19-9e	15	2278
Kirchner et al's Strip 2, csl sw se ne 13-19-8e	40	2250
Gled Oil Co.'s Thomas 1, sw c ne 8-19-9e	*	2397
OKLAHOMA COUNTY—		
Gulf P&R's Rucker 1, sw c se sw nw 2-11-3w ....5 hrs	2180	6227
Skelly Oil's Ledbetter 1, cwl ne nw ne 22-11-3w ....4 hrs	580	6450
Harrell, Davis et al's Fish 1, sec ne se se 22-11-3w ....4½ hrs	1550	6425
Ocate Oil Co.'s Smith 3, se c ne se nw 15-11-3w ....4 hrs	4790	6410
Refiners Production Co.'s Buchanon 1, se c sw ne 10-11-3w ....4 hrs	2800	6332
OSAGE COUNTY—		
J. E. Cooper et al, 2, ne sw se 26-21-10e	*	1945
PAWNEE COUNTY—		
Spartan Drlg. Co.'s Lederer 3, se nw nw 24-20-7e (owd)	*	2650
PONTOTOC COUNTY—		
Gus Delaney's Harell 2, cnl ne se 29-5-8e	50	841
SEMINOLE COUNTY—		
The Texas Co.'s Eliza 1 (owd) ne nw se 19-7-8e	670	3055
STEPHENS COUNTY—		
Dun-Mar Oil Co.'s Dunmar 1, nw ne ne 11-2s-8w	¶7	1358

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
CHASE COUNTY—		
K. R. & T. Gas Company's Stevenson 1, c ne ne 27-19-6e	¶½	522
McPHERSON COUNTY—		
Derby Oil & Empire O&R's Domsch 8, se ne nw 6-20-1w	600	3413
Western Gasoline Corp. and Shell's Wall 1, nw nw se 21-21-3w	125	3087
Twin Drlg. Co. et al's Farver 1, sw c se 16-20-1w	*	3495

MONTANA

TOOLE COUNTY—		
(Kevin-Sunburst field)—		
Pfage & Engelking's Seabrook 2 abn.	..	1605

WYOMING

PARK COUNTY—		
(Frannie field)—		
Midwest Refining Co.'s Rosenburg 4	609	3295

COLORADO

MOFFAT COUNTY—		
(Craig structure)—		
Ohio Oil Co.'s Bogenschultz 1	¶11	2800

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
ALLEGHENY COUNTY—		
Swain Oil Co., Berg 1	3	....
Local Oil Co., Martin 1	3	....
BUTLER COUNTY—		
Ritzert Bros & Co., Norris 1	2	....
Frederick & Co., Norton 2	¶¼	....
W. I. Goettman, McKinney 1	¶½	....
Local Oil Co., Albert 1	¶1	....
BRADFORD FIELD—		
Sloan & Zook Oil Co., Duke 1	4	....
Bradford Producers Inc., Mitchell 6	22	....
Franchot 11	35	....
Fee 9	32	....
Harter 8	3	....
Sloan & Zook Oil Co., Willett 10	pres.	....
T. P. Thompson Jr., Borden 19	3	....
Olean Petroleum Corp., Fee 18	17	....
L. G. Dana, Dana 4	7	....
Indian Creek Oil Co., Fee 5	5	....
G. W. Smith Estate, Smith 6	10	....
Carl W. Morris, Griffin 1	3	....
A. B. Collins, Bingham 538 tr. 3	3	....
F. M. Johnston & Co., Franchot 5	2	....
Healey Petroleum Corp., Hunt 1	2	....
Forest Oil Corp., Fee 84	2	....
Fee 85	2	....
Fee (5 wells)	pres.	....
Producers Bank & Trust, Bingham 143 tr. 9	4	....
CENTER-MIDDLE FIELD—		
A. L. Lilly & Co., Middaugh 1	4	....
F. M. Books, Books 2	3	....
TIOGA-WAYNE COUNTIES—		
Peterson & Herkin 1	*	....
Hammondsport Natural Gas Co., Sovacool 1	¶3½	....
Penn-United Gas Co., Meaker 2	*	....
Hungerford & Co., Booth 1	¶2½	....
Williamsport Oil & Gas Co., Fee 1	¶2¼	....
Workmen & Co., McCollum 1	*	....
Penn York Co., Hettrick 1	*	....
Susquehanna Oil & Gas Co., McKelvey 1	*	....
Campbell & Co., Sherwood 1	3	....
VENANGO-CLARION COUNTIES—		
Thompson & Rice, Rice 9	3	....
Titusville Trust, Foskey 24	2	....
Fryburg Motor Co., Sterner 5	¶¼	....
W. H. Master & Co., Fye 4	2	....
GREENE COUNTY—		
Convex Glass Co., Miller Hrs. 1	¶1	....
Equitable Gas Co., Wade 1	¶1	....
Fox 1	¶1	....

NEW YORK

ALLEGANY COUNTY—		
N. V. V. Franchot, Franchot 3	32	....
Bradley & Co., South Penn 12	17	....
B. Sikes & Co., Sikes 1	7	....
C. M. Lippert & Co., Lippert 16	3	....
Fastman & Co., Ames 10	pres.	....
Penn-Pure Inc., Kinley 4	2	....
Mrs. H. S. Westran, McCaffrey 4	2	....

WEST VIRGINIA

BOONE COUNTY—		
Godfrey L. Cabot Inc., Central Trust Co. 1	¶¼	....
Federal Coal Co. 51	¶½	....
PLEASANTS COUNTY—		
Charles Kerr, Holdren 24	*	....
Albert Neely, Thorne 1	¶¼	....
ROANE COUNTY—		
Deeds Oil & Gas Co., Keene 1	¶¼	1043

INDIANA

FRANKLIN COUNTY—		
American Industrial Gas Corp., Kunz 1	*	....
GIBSON COUNTY—		
Big Four Oil & Gas Co., Hope 3	40	....
HENDRICKS COUNTY—		
French Development Co., Reitzel 1	*	3200
PERRY COUNTY—		
W. S. Hughes & Co., Dotson 1	*	....
RIPLEY COUNTY—		
American Industrial Gas Corp., Siebert 1	*	....
SULLIVAN COUNTY—		
Pierson & Co., Sludder 1	¶1½	250
SPENCER COUNTY—		
Medley Bros. Phillips 1	*	....
Steffy & Grass, Sauter 1	*	1050

ILLINOIS

BOND COUNTY—		
Bond County Gas Co., Merry 1	¶¼	934

CENTRAL OHIO

ATHENS COUNTY—		
Ohio Fuel Gas Co., Caskins 1	*	1615
LICKING COUNTY—		
Armstrong & Lytle, Motherspaw 5	*	1550
Emerald Petroleum Co., Barcus 1	6	678
MEDINA COUNTY—		
Ohio Fuel Gas Co., Garman 3	*	....
PERRY COUNTY—		
Earnest English & Co., McTeague 1	*	3535
STARK COUNTY—		
F. A. Brendall & Co., Steiner 4	¶3¼	4315
East Ohio Gas Co., Ginther 1	*	3941
SUMMITT COUNTY—		
Smith & Co., Smith 1	¶2¼	4041

KENTUCKY

CUMBERLAND COUNTY—		
Wilcox Bros. Cook 1	50	450
DAVIESS COUNTY—		
Cumberland Petroleum Co. & Co. Ivie 1	40	615
Wade & Moore, Burton 1	25	....
S. H. Russell, Neel 2	30	....
OHIO COUNTY—		
Cumberland Petroleum Co., Farmer 1	*	....

MICHIGAN

MIDLAND COUNTY—		
The Pure Oil Co., Kidder 1	1890	3600
W. L. McClanahan Inc., Struble 3	1000	3550

PETROLEUM DICTIONARY

By HOLLIS P. PORTER

Member of American Society of Mechanical Engineers, American Petroleum Institute.

This work grew out of a demand for some source of definition for the terms used by the petroleum industry. It contains 3,000 definitions of words used constantly by all phases of the petroleum industry. It was published early in 1931 and has found its way into engineering departments, legal departments and land departments of producing concerns, as well as to the desks of executives of the petroleum industry.

Manufacturers also find it valuable for reference. Advertising agencies find it a valuable addition to the library.

234 Pages, 6 x 9, cloth bound, Price Postpaid, $3.00
Send order to

THE GULF PUBLISHING CO., P. O. Box 1307, Houston

Permits Granted for New Wells

▼ ▼ ▼

For Tabulation and Comparison See Market Section

CALIFORNIA

BUTTONWILLOW—Southern Pacific Land Co., S. P. 21-7, 7-28-23.

KINGS COUNTY—H. C. Turnham's No. 1, 23-20-22.

LOUISIANA

CADDO PARISH—Pyramid Oil & Gas Co., Shreveport, Breard 2, 9-18-16, 1980 ft w and 660 ft s of ne cor of sec.

SABINE PARISH—Sabine Prod. Co., Inc., Shreveport, Pierce 3, 10-7n-11w, 350 ft s and e nw cor se¼ nw¼ of sec. A. F. Tarver, Shreveport, Cutrer 3, 12-7n-11w, 330 ft n and 200 ft w se cor sw¼ nw¼ of section. Beach & Scully, Houston, La Fitte 1, 13-7n-11w, 700 ft e of nw cor of sec. Rowe et al, Vivian, La., Anna Williams 1, 13-7n-11w, 600 ft s and 440 ft e nw cor of sw¼ of section.

KANSAS

CHASE COUNTY—Ryan et al's Lipps 1, c se sw, 25-18-6e.

COWLEY COUNTY — Roth and Faurot's Fee 1, sw c se 22-32-4e.

EDWARDS COUNTY—Mid-Kansas O&G's Converse 1, sw ne ne 30-24-18w.

ELLSWORTH COUNTY—Smith & Ash et al's Stratman 1, nw ne ne 12-17-10w.

HARVEY COUNTY—D. R. Laucke et al's Krehbiel 1, sw se nw 9-22-3w; W. C. McBride Inc. et al's Friesen 1, nw c sw 20-22-3w.

RENO COUNTY—Cromwell and Lewis' Regier 1, c se se 24-23-4w.

SEDGWICK COUNTY — Continental Oil Co.'s Horton 1, sw c 10-25-1e.

OKLAHOMA

COTTON COUNTY — Wirt Franklin Pet. Corp.'s School land 4, se c sw 36-1s-10w.

CREEK COUNTY—Jim Wise et al's King 1, sw c ne se 22-17-11e; Magnolia Pet. Co.'s Musselman 1, nw c sw nw ne 8-18n-7e (owd); Vensel and Elliott's Evans 1, ne c sw 28-19-9e; Gled Oil Co. and Phillips Pet.'s Koch 9, ne c se ne 20-19-9e; Gled Oil Co.'s Fish 1, ne c se nw 7-19-9e; Gled Oil Co. and Elison's Barton 1, ne c se 36-19-8e.

GARVIN COUNTY — Gabe Long et al's Ward 1, nw sw se 19-1n-2w.

GRADY COUNTY—Geo. Schoomaker's Staton 1, nw c 35-4n-6w.

OKLAHOMA COUNTY—Champlin O&R et al's Central 6, cwl nw se se 3-11-3w; Marion Oil Corp.'s Rooke 1, sw c se nw nw 10-11-3w; I.T.I.O.'s Lord 1, se ne ne 35-11-3w; I.T.I.O.'s M.K.T. 7, nw c sw sw 35-12-3w; Anderson-Pritchard Oil Corp. et al's Rayhill 2, sw c nw ne 10-11-3w; Phillips Pet. et al's Trail 1, csl sw sw ne 3-11-3w; Phillips Pet. et al's August 1, ne c sw sw ne 3-11-3w.

OKMULGEE COUNTY—Alec, Karam and Zimmerman's Kirschner 1, nw c se se 21-16-14e.

PONTOTOC COUNTY — Stanolind O&G.'s Burk 2 "C", se sw ne 32-5-5e.

SEMINOLE COUNTY — Amerada Pet. Corp.'s Tiger 3 (owd) ne sw ne 3-8-5e.

STEPHENS COUNTY — P. L. Gilbert's Green 2, sw c ne ne 2-2s-8w.

TULSA COUNTY—Aggas Drlg. Co.'s Techorna 1, cwl se ne 13-16-13e.

TEXAS

ARCHER COUNTY—Perkins & Cullum, Wichita Falls, C. L. Abercrombie, 336, 1, B, 157, Club Ranch sur, 2301 ft fr W and 1668 ft fr s line. Beard & Hammand Oil Co., Fort Worth, J. S. Bridwell, 40, 1, W. B. Aldridge sur, 150 ft fr n and 990 ft from e line. W. E. Maxon Jr., 303 Morningside, Wichita Falls, F. C. Green, 320, 12B, J. Levins sur, 750 ft fr w and 293 ft from n line. Geo. L. Pace, Dallas, Green sur, 160, 3, J. Levins sur, 600 ft fr n and 400 ft from e line. Perkins & Cullum, Wichita Falls, Logan, 200, 1, No. 5 A. Armes sur, 1273 ft from w and 1230 ft from n line. Underwood Drilling Co., Wichita Falls, F. Young, 40, 1, 1810 TE&L sur, 150 ft from n and e lines.

BEXAR COUNTY—W. R. Swearingen et al, San Antonio, J. H. Halbardier, 93, 8, No. 57 J. M. E. Perez sur, 154 ft from n and 600 ft from e line.

BRAZORIA COUNTY—Intercoastal Oil Co., Houston, Wisdom, 840, 9, A. Darst sur, 325 ft from n and 301 ft from e line, blk 62.

CALDWELL COUNTY—C. J. Webster Oil & Gas Co., San Antonio, W. W .McCrory, 110, 1, McNeill sur, ne corner.

CHAMBERS COUNTY—Mills Bennett Prod. Co., Houston, J. B. Means, 5, 3, H. Griffith sur, 300 ft w of No. 2. Sun Oil Co., Dallas, J. Wilburn, 65, 14, Wm. Hodge sur.

DUVAL COUNTY—Seacord, Putman et al, Mirando, J. W. Johnson, 40, 1, sec 44, 150 ft from s and w lines.

GREGG COUNTY—J. B. Stoddard, Dallas, D. Smith, 25, 3, J. S. Caruthers sur, 400 ft se of No. 1. Central Commercial Oil Co., Tulsa, Okla, A. A. King, 156, 3, M. Tenison sur, 232 ft from n and 328 ft from e line. Westheimer & Daube, Ardmore, Okla., J. T. Florence, 20, 1, M. Van Winkle, 123 ft from w and 606 ft from s line. J. H. Massie, Wichita Falls, J. W. Orr, 36, 3, H. H. Edwards, north of No. 2. Choctaw Oil Co., Longview, H. T. Elder, 8, 2, M. Van Winkle sur, 210 ft from n and 150 ft from e line. Superior Oil Co., Dallas, L. C. Ingram, 162, 10, W. E. Pasteur sur, 330 ft from n and 1161 ft from e line. Columbia Oil & Gas Co., Dallas, W. M. Harley, 45, 2A, W. M. Robinson, 330 ft from n and w lines. Bishop Corp., Longview, Todd, 28, 2, Castleberry sur, 332 ft from e and 520 ft from s line. McKinney, Bracken & Cowden, Duncan, Okla., J. M. Christian, 50, 3, G. W. Hooper sur, 1000 ft e of No. 1. Jones-O'Brien Inc., Shreveport, La., Hughey-Ross, 126, 3, J. Hilliard sur, 660 ft e of No. 1. Robt. Jordan, Tyler, W. P. Crows, 28, 1, J. M. Norris sur, 330 ft from s and e lines; A. A. King, 117, 1, J. W. Bradshaw sur, 330 ft from s and e lines. Heyser-Heard, Dallas, L. Y. Tuttle, 24, 2, Wm. Castleberry sur, 330 ft from n and w lines. Lucey Pet. Co., Dallas, M. Fisher, 65, 4, Wm. Castleberry sur, 330 ft from s and w lines. Bay Oil Corp., Tulsa, Okla., W. P. Crews, 10, 1, J. W. Bradshaw sur, 330 ft from e and 225 ft from s line. Champlin & Bass Inc., Tyler, C. C. Clemens, 11, 2, D. Sanchez sur, 148 ft from n and 450 ft from e line. Howard Pet. Corp., Tyler, Texas, Stuckey-Thrasher, 40, 3, G. W. Hooper sur, 177 ft from n and 297 ft from w line; C. L. Mahaney, Dallas, Mt. Calvary Ch., 4, 1, M. Van Winkle sur, 157 ft from w and 210 ft from s line. Lion Oil & Refg. Co., Eldorado, Ark., A. A. King, 20, 2, M. Van Winkle sur, 200 ft from n and 700 ft from e line. C. P. Link, Fort Worth, J. H. Alexander, 2, 1, D. Sanchez sur, 263 ft from n and 82 ft from w line. Farlyn Oil Co., Houston, J. H. Alexander, 10, 1, D. Sanchez sur, center. Royal Pet. Corp., Longview, Texas, M. B. Hughey, 5, 1, L. B. Outlaw sur, 200 ft from s and e lines. C. J. Webster Oil & Gas Co., San Antonio, M. Charles, 10, 2, W. P. Chisum sur, 200 ft from n and 70 ft from e line. Mrs. J. W. Patterson, Longview, F. K. Lathrop, 2, 1, Wm. Robinson sur, center. Louis Sikes, Tyler, F. E. Stancil, 36, 1, T. Allen sur, 28 ft from n and 165 ft from e line. T. W. Lee, Gladegater, Fee, 1, Gladewater Twste., center of blk 37. O. G. Murphy, Eldorado, Ark., J. B. Doby, 45, 5, W. H. Castleberry, 150 ft from w and 504 ft from s line. California Pet. Corp., Shreveport, La., J. M. Tuttle, 25, 3, W. H. Castleberry sur, 211 ft from w and 330 ft from s line. Invincible Oil Co., Gladewater, W. Williams, 38, 2, G. F. Penn sur, 304 ft from n and 825 ft from w line. Jack Blalock, Marshall, R. Atkins, 3, 1, S. Dainwood sur, 689 ft from n and 51 ft from e line. Tidal Oil Co., Fort Worth, Lake Devernia, 270, 4, W. G. Painter sur, 990 ft from w and 1400 ft from n line; C. G. Strong, 113, 3, J. Blair sur, 400 ft from w and 3264 ft from n line; T. Bell, 95, 4, G. F. Penn sur, 330 ft from n and e lines; J. J. Castleberry, 202, 7, D. Sanchez sur, 330 ft from n and 1300 ft from e line; T. Bell, 95, 5, I. Baity sur, 200 ft from e and 120 ft from s line; Mrs. A. Davis, 130, 4, W. G. Painter sur, 330 ft from e and 1800 ft from s line. Humble Oil & Refg., Co., Houston, D. Thomas, 59, 8, M. Van Winkle sur, 145 ft from ne and 130 ft from se line; T. M. Armstrong, 79, 4, J. R. Crosby, 200 ft from e and 297 ft from s line; J. H. Shepperd, 57, 2, T. Allen sur, 256 ft from e and 275 from s line. Yount-Lee Oil Co., Beaumont, Pine Hill Sch., 2, 1, H. Hathaway sur, 230 ft from n and 89 ft from e line; S. G. Smith, 60, A3, Wm. Castleberry sur, 330 ft from s and e lines; F. K. Lathrop, C, 114, 4, Wm. Robinson sur, 252 ft e of center of w line. Fain-McGaha Oil Corp., Wichita Falls, A. Tooke, 100, 3, W. C. Wakeland sur, 200 ft from n and 262 ft from w line; 2, 330 ft from n and e lines. Atlantic Oil Prod. Co., Dallas, M. Turner, 162, 8, W. C. Wakeland sur, 1964 ft from n and 330 ft from e line; R. Whaley, 74, 4, W. P. Chisum sur, 660 ft e of No. 3. H. J. Heartwell, Fort Worth, C. Everett, 3, 1, H. R. Hokit sur, 100

Taylor Forge Seamless Pipe Fittings for Welding

Elbows, Tees, Bull Plugs and Reducing Nipples for complete pipe layouts.

Maximum structural strength.

Minimum resistance to flow.

Tangents make possible more accurate and better alignment and removes the weld from point of stress.

Machine beveled ends permit more efficient welding.

Taylor Forged Steel Flanges

All series raised face flanges or grooved to your specifications.

Ring Gaskets

Steel, Monel and Bronze.

High Tensile Bolting Material for High Pressures and Temperatures

Catalog and complete information furnished upon request.

The Corbett Corporation

P. O. Box 42 Houston, Texas

ft from e and 120 ft from s line. Magnolia Pet. Co., Dallas, M. B. Hughey, 80, 5, Wm. McCurry sur, 330 ft from s and e lnes; J. A. Parnell, 40, 2, H. H. Edwards sur, 813 ft from e and 330 ft from s line; M. B. Hugey, 80, 7, Wm. McCurry sur, 330 ft from e and 943 ft from s line; I. Zeigler, 83, 1, B. Hampton sur, 330 ft from n and w lines; C. Davis, 66, 8, Wm. Castleberry sur, 497 ft e of No. 4. Stanolind Oil & Gas Co., Longview, H. Key, 90, 3, Wm. Castleberry sur, 361 ft from w and 330 ft from s line. Arkansas Fuel Oil Co., Shreveport, La., G. Donaldson, 40, 3, L. B. Outlaw sur, 330 ft from n and 472 ft from w line. Amerada Pet. Corp., Fort Worth, C. Jenkins, 50, 3, Jno. Wilkinson sur, 330 ft from e and 345 ft from s line; 2, 1180 ft e of No. 1; 1, 330 ft from w and 345 ft from n line. Sinclair Oil & Gas Co., Fort Worth, A. A. King, A, 290, 13, P. W. Warraner sur, 330 ft from w and 964 ft from s line. Barnsdall Oil Co., Tulsa, Okla., J. Douglas, 138, 1, Chisum sur, 330 ft from s and w lines. Sun Oil Co., Dallas, G. Reese, 124, 2, J. Hoy sur, 330 ft from n and w lines; J. J. Reppond, 50, 2, D. Sanchez sur, 387 ft from w and 250 ft from s line. Gulf Prod. Co., Houston, C. Strong, 138, 2, J. Hoy sur, 165 ft from w and 223 ft from s line. Amended Location, S. C. Fishburn, 200, 6, F. W. Johnson sur, 534 ft from n and 330 ft from e line. Texas Co., Shreveport, La., R. B. Wells, 104, 3, M. Tenison sur, 932 ft from e and 330 ft from s line. Shell Pet. Corp., Dallas, B. F. Laird, 211, 1, Jas. Wilkinson sur, 330 ft from e and 235 ft from s line.

GUADALUPE COUNTY—Humble Oil & Refg. Co., Houston, S. C. Denman, C, 140, 4, Wm. Arrington sur, 1265 ft from n and 650 ft from e line.

HARDIN COUNTY—Rio Bravo Oil Co., Houston, Fee, 158, C132A, J. F. Cotton sur, 210 ft e and 100 ft n of No. 108A.

HARRIS COUNTY—Rio Bravo Oil Co., Houston, J. J. Settegast, A, 125, 24, J. Kopman sur, 1900 ft from n and 200 ft from e line.

HARRISON COUNTY—Great Eastern Oil Co., Dallas, Winston, 612, 1, S. Esteridge sur, 660 ft from w and 1200 ft from s line.

JIM WELLS COUNTY—F. A. Lain, San Antonio, V. Porter, 200, 1, 400 ft from w and 800 ft from s line.

KAUFMAN COUNTY—Stanley Darrill et al, Kaufman, S. Pannill, 649, 1, A. Cherino sur, 1200 ft e of center of w line.

Liberty County—Gulf Prod. Co., Houston, E. W. Boyt, 621, 15, A. Allen sur, 500 ft e of No. 11.

McLENNAN COUNTY—Braz-Tex Oil Co., Waco, J. L. Jones, 200, 1, B3, I. Galindo sur, 1000 vs from w and 150 ft from s line.

MONTGOMERY COUNTY—Wilson Oil Co., Houston, Leiberman, 5, 2, D. James sur, 232 ft from s and w lines.

PALO PINTO COUNTY—Hoffman & Page Co., Eastland, B. B. Chisolm, 127, 1, S80, BCSL No. 3 sur, 600 ft from e and 330 ft from s line. Tom Hughes, Mineral Wells, R. S. Dalton, 15, 1, 1790, TE&L sur, 150 ft e of center of w line.

PECOS COUNTY—Corvette Oil Corp., Fort Worth, J. H. Tippett, 40, 5, S 40, B, 194, GC&SF sur, 150 ft from n and 941 ft from e line.

RUSK COUNTY—C. L. Archer, Overton, J. H. Stewart, 21, 2, Jno. Womack sur, 330 ft from w and 680 ft from s line. R. E. L. Silvey, Overton, Overton, 1, W. G. Tutt sur, center of blk 8. Turman Oil Co., Tulsa, Okla., Brightwell, B, 1, R. E. Winn sur, 160 ft from e and 175 ft from s line. Blackwell Oil & Gas Co., Kilgore, S. Stone, 53, 6, M. J. Pru, 200 ft from w and 250 ft from s line. Darby Pet. Corp., Tulsa, Okla., C. O. Christian, 117, 6, M. McCabe sur, 1120 ft from n and 330 ft from e line. L. G. Priest, Ft. Worth, J. M. Mayfield, 22, 2, D. Clark sur, 330 ft from s and w lines. Fagan & Salmon, Dallas, J. H. Scoggins, 50, 1, E. Collard, 330 ft from n and w lines. McClanahan & Venable Oil Co., Tyler, J. W. Flanagan, 33, 3, M. J. Pru sur, 330 from s and w lines. Harry Florey, Overton, Fee, 2, Overton Twste, center of blk 9; 1, center of blk 1. Cordova-Union Oil Corp., Fort Worth, J. S. Bean, 134, 8, J. Lewis sur, 330 from s and e lines. Zion Oil Co., Tyler, L. S. Sartain, 10, 1, Jas. Jordan sur, 233 ft from n and 330 ft from e line. Ben B. Hunt, Mexia, J. C. Gibson, 2, 1, T. C. Floyd sur, 136 ft from n and 150 ft from e line. J. D. Hunt, Jr., Waco, J. C. Gibson, 2, 1, T. C. Floyd sur, 194 ft from e and 130 ft from s line. K & P Oil Co., Tyler, Brock, 12, 4, R. W. Smith sur, 150 ft from n and w lines. B. L. Snyder, Dallas, J. H. Stewart, 10, 1, Jno. Womack sur, 200 ft from e and 220 ft from s line. Shoreline Oil Co., Marshall, C. B. Hannah, 11, 1, J. B. Cadena sur, 450 ft from w and 150 ft from s line. Tex-Jersey Oil Corp., Tyler, W. P. Keeling, 6, 3, F. Cordova sur, 120 ft from n and 150 ft from w line. Royal Pet. Corp., Dallas, T. H. Goforth, 41, 2, Tutt-Thompson-Lindley sur, 600 ft from e and 150 ft from n line. Magnolia Pet. Corp., Dallas, S. E. Brox, 84, 5, Thos. Grace sur, 330 ft from s and e lines; S. W. Moores, 36, 2, J. B. Cadena sur, 330 ft from n and w lines. Mills Bennett Prod. Co., Houston, W. J. Brightwell, 88, 8, Wynn & Smith sur, 165 ft from e and 243 ft from s line. Gulf Prod. Co., Houston, A. H. Rayford, 29, 2, F. Cordova sur, 330 ft from e and 164 ft from s line; C. F. O'Quinn, 25, 2, G. W. Berry sur, 357 ft from w and 330 ft from s line; J. W. Shaw, 89, 2, F. Cordova sur, 164 ft from n and 330 ft from e line; W. Florence, 165, 9, W. A. Elliott sur, 330 ft from n and 332 ft from e line. Empire Gas & Fuel Co., Bartlesville, Okla., C. O. Cristian, 103, 6, W. A. Elliott sur, 1171 ft from s and 330 ft from w line. Humble Oil & Refg. Co., Houston, M. Wooster, 70, 4, W. H. Bears sur, 1786 ft from w and 383 ft from s line. Amended location, S. S. Laird, A, 230, A 13, I. Ruddle sur, 338 ft from e and 330 ft from s line; R. E. Silvey, A, 115, A5, T. J. Martin sur, 1056 ft from w and 990 ft from s line. Stanolind Oil & Gas Co., Longview, J. S. Powers, 91, 5, Jno. Womack sur, 830 ft from n and 1020 ft from e line. Texas Co., Shreveport, La., J. M. Price, 90, 3, T. M. White sur, 660 ft w of No. 2. Mid-Kansas Oil & Gas Co., Shreveport, La., E. E. Moores, 182, 11, J. B. Cadena sur, 330 ft from w and 2350 ft from s line; L. B. Rollins, 23, 2, J. B. Cadena sur, 330 ft from e and 284 ft from s line.

RUNNELS COUNTY—Blue Bonnet Pet. Co., San Angelo, McMullen, 67, 1, No. 533 M. Travis sur, 1368 ft from n and 660 ft from w line, blk 22.

SMITH COUNTY—Everts Drilling Co., Dallas, W. R. Wolford, 40, 4, Jas. Jordon sur, 625 ft from w and 250 ft from s line. Corrected location, T. A. Johnston, Tyler, J. Jackson, 50, 3, D. Shaw sur, 660 ft from n and 330 ft from e line. Sinclair Oil & Gas Co., Fort Worth, D. Wright, 162, 10, J. Vargas sur, 332 ft from n and e lines; A. S. Jarvis, C, 256, 6, M. S. Coy sur, 330 ft from n and w lines; A. S. Jarvis, A, 266, 11, J. Vargas sur, 330 ft n of center of s line. Jno. Owen, Tr., Tyler, J. Jackson, 50, 4, D. Shaw sur, 330 ft from s and w lines. J. J. Deaner, Okmulgee, Okla., B. Wilson, 20, 1, Jas. Jordan sur, 330 ft from s. and w lines. Bloxom & Nash, Henderson, F. Cole, 31, 1, E. Daniels sur, 330 ft from s and e lines. Weaver-Crim Oil Corp., Longview, B. Stone, 49, 1, B 3, D. Shaw sur, 250 ft from n and 330 ft from e line; 2, 330 ft from s and e lines.

UPSHUR COUNTY — Galvez Oil Corp., Tulsa, Okla., W. W. Holland, 45, 3, T. Allen sur, 330 ft from n and w lines. A. A. Trammell, Oil City, La., E. H. Hamilton, 60, 1, W. King sur, 330 ft from s and e lines. Humble Oil & Refg. Co., Houston, A. J. Watkins, 76, 2, E. A. J. Evans sur, 213 ft from n and 520 ft from e line; E. O'Byrne, A, 304, A2, J. M. Pineda sur, 1445 ft from e and 451 ft from s line.

WARD COUNTY—T. P. Coal & Oil Co., Fort Worth, H. James, 640, 2, S 5 B, 34, H&TC sur, 330 ft from n and e lines.

YOUNG COUNTY—J. W. Huffman et al, Graham, G. W. Terrell, 10, 1, S, 249, TE&L sur, 235 ft from n and 150 ft from e line. F. E. Webb, Olney, J. E. Robinson, 50, 1, Masonic Asy. sur, 800 ft from w and 150 ft from s line. C. C. Williams, Jean, E. F. Brown, 70, 1, 290, TE&L sur, 900 ft from e and 150 ft from s line. Iron Mountain Oil Co., Graham, C. L. Lowe, 36, 1, 2412, TE&L sur, 200 ft from w and 150 ft from n line. United Prod. Co., Wichita Falls, E. L. Baldwin, 60, 1, 294, TE&L sur, 150 ft from n and e lines. Cooper, Hamilton & Mitchell, Olney, J. P. Dunigan, 68, 4, 163, TE&L sur, 150 ft from n and 1850 ft from e line. Cable Oil Co., Wichita Falls, L. A. Snider, 300, 23, R. Wilson sur, 400 ft nw of No. 22; J. Williams, 30, 1, W. C. Aadms sur, 150 ft from s and e lines.

Wildcat Reports from All Sections

SOUTHERN CALIFORNIA

CALABASAS—L. W. Rucker's No. 1, 26-1-17, sd 900 ft.

HERMOSA BEACH — Corniel Oil Corp.'s Hermosa 1, 31-3-14, sd 3100 ft. Tulsa Oil Co.'s Hermosa 2, 6-4-14, will re-cmt 6⅝-inch cas at 2035 ft, td 3140 ft. Westwood Oil Producers' Hermosa 2, 6-4-14, pumping water and oil, td 2145 ft, will continue test.

LYNWOOD—William L. Jones' Graham 1, 31-2-12, will deepen from 1210 ft, had oil showings around 1200 ft.

NEWPORT—Ajax Pet. Co.'s B. G. 1, 16-6-10, will make test at 7260 ft, 6¼-in cas to be cmt at 6450 ft.

OLINDA—Graham-Loftus Oil Co.'s No. 1, 18-3-9, plugged to 4696 ft, will test upper showings.

OCEAN PARK—Hines Pet. Corp.'s Happy Days 1, 8-2-15, sd 7405 ft.

WILMINGTON—Walter I. Barcus' Lupie 1, 28-4-13, lcn. Ranger Pet. Corp.'s Watson 2, 21-4-13, pumping 60 bbls 14 gravity oil, td 3785 ft. Stevenson Brothers' Wilmington 1, 21-4-14, lcn.

SAN DIEGO COUNTY—Borderland Exploration Co.'s No. 2, hole cleaned out, will run string of 11⅝-inch cas. Itasca Pet. Co.'s No. 1, 31-18-2, sd 1560 ft. C. H. Shannon's Mack 1, 14-15-3, rigging rotary.

NORTHERN CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
SANTA BARBARA COUNTY—		
Texas' McDougal C. H. 3-408 34-4-25	*	408

KERN COUNTY

BUTTONWILLOW — Graham-Loftus Oil Co.'s Carmel 1, 20-27-22, dr shale 6575 ft, will cmt string of 5¾-inch cas. General Pet.'s Morris 1, flowing some gas, td 2615 ft. Milham Exploration Co.'s Kern 10, 5-28-23, sd 2690 ft; Whittaker 1, 8-28-23, 8⅝-inch cas cmt at 2483 ft, td 2501 ft; No. 21-7, 7-28-23, lcn. Wilshire Oil Co.'s Salisbury 1A, 7-29-24, co, td 6990 ft.

DEVIL'S DEN—Totem Oil Co.'s No. 1, 29-25-19, rigged to sp.

McKITTRICK — California Oil Producers' No. 2, 30-30-22, sd 6665 ft. T. H. Purman's No. 1, 22-29-21, dr shale 3450 ft. Welport Oil Co.'s No. 8, 26-29-21, running formation tester, td 1300 ft.

SEMITROPIC — Fullerton Oil Co.'s Core Hole E, 9-28-24, dr shale 1065 ft.

WHEELER RIDGE—Barnsdall's K. C. L. 1, 15-11-20, dr hard sand 4575 ft. Descanso Oil Co.'s El Tejon 1, 31-11-19, dr shale 2575 ft.

SANTA BARBARA COUNTY

CARPENTERIA—Texas' Core Hole 3-408, 34-4-25, abn 408 ft.

GOLETA—General Pet.'s Hollister 1, 10-4-29, swabbed water above plug at 730 ft, td 1329 ft. Strickland and Tippett's Duncan 1, 19-4-27, dr shale 5363 ft.

LOS ALAMOS—Barnsdall's Careaga 1, 31-8-33, dr shale 2915 ft. N. S. Wilson's Orena 1, 2-7-33, sd 3450 ft.

SANTA MARIA—O. C. Field Gasoline Co.'s Norswing 1, 8-9-33, plugged to 5127 ft, pumping 40 bbls oil and 300 bbls water, td 5568 ft. Western Gulf's Bradley 1, 5-9-33, fsh 8566 ft.

SANTA ROSA ISLAND—Standard's No. 1, bldg roads, lcn to be announced later.

VENTURA COUNTY

CONEJO—American Oil Co.'s Powell 1, 33-2-20, dr lava 1600 ft. Sycamore Oil Co.'s Hansen 1, 24-1-20, dr hard sand 1500 ft.

HOPPER CANYON — Bardeen Oil Co.'s Lankershim 2B, 13-4-19, dr shale 300 ft.

OJAI—A. N. Macrate's Cosmon 1, 27-4-23, grading rig site.

OXNARD — Magu Synd.'s Utt 1, 17-1-21, deepening from 5238 ft.

RINCON—Woodrow Oil Co.'s Lomas 1, 4-3--24, bldg roads to lcn.

SOUTH MOUNTAIN—H. H. Bell's Lomas 1, 22-3-21, dr shale 2475 ft.

MISCELLANEOUS

FRESNO COUNTY — Kingsburg Exploration Co.'s Muller 1, 29-16-23, dr hard sand 2435 ft.

KINGS COUNTY—Magee and Stone's No. 1, 34-24-22, dr shale 550 ft. Eagle Oil and Gas Co.'s No. 1, 15-23-20, sd 1125 ft. Irma Investment Co.'s Watson 2, 7-23-20, co 1225 ft. Kettleman Lakeview Oil and Gas Co.'s No. 1, 18-22-19, dr shale 1100 ft. Owens Brothers' No. 1, 32-22-20, rig. Tulare Basin Gas Co.'s Goodfellow 1, 2-23-19, completed as gas well, shut in, td 1192 ft. Valley Exploration Co.'s Dudley 1, 12-23-19, 8⅝ inch cas cmt 975 ft, td 1302 ft.

SAN LUIS OBISPO COUNTY — Emerich Oil Corp.'s No. 1, 13-28-12, 6¼-inch cas cmt 1940 ft, td 1945 ft. Kent and McDonald's No. 1, 3-32-22, sd 2395 ft.

STANISLAUS COUNTY — Bud Hildebrandt's No. 1, 36-6-7, sd 1080 ft.

SAN MATEO COUNTY—Easton and Monell's Baden 1, 25-3-6, dr shale 3100 ft.

TEHAMA COUNTY — Crockett Drilling Syndicate's No. 2, 20-24n-5w, swabbing for gas test, td 2101 ft, 8-inch cas cmt 1543 ft.

TULARE COUNTY — Gravity Exploration Co.'s Buck 1, 11-24-23, rigging up. Ducor Petroleum Co.'s Zimmerman 1, 14-24-27, re-dr 2150 ft, td 2180 ft.

YOLO COUNTY—Pacific Northern Oil and Gas Co.'s Guinda 1, 2312-3w, co 2007 ft, may deepen.

MONTANA

BROADWATER—Capitol O&G Co., nw 7-8n-1e, dr bel 2000 ft.

CARBON—Corbett Roy. Co., sw se 1-6s-23e, reset 8¼-inch at 1120 ft. Jack Creek O&G Co., 1, se 15-7s-23e, abn lost hole 1335 ft, skid rig. Ohio Oil Co., Kutchinski 1, 15-7s-21e, dr 4800 ft. Midland Oil Synd., nw 24-6s-23e, dr 150 ft.

CARTER—E. T. Moorehead, sw 36-4s-57w, wait for 12½-inch at 350 ft.

CASCADE—Buscher & Cassady, Johnson 1, se 19-22-3e, sd 1387 ft, hfw. Charles Merz et al, Sheffels 1, nw 4-21-4e, to run 6-inch to 905 ft.

FALLON—H. W. MacDonald's 1, sw 28-8n-60e, 8¼-inch cem 1682 ft, co.

FERGUS—Melton Corp., 1, sw 24-21n-17e, dr 3080 ft, carry 8¼-inch. Landheim-Romunstad 2, ne 3-17n-20e, set 6⅝-inch at 2116 ft, sd 2600 ft.

GALLATIN—Mont. Gas & Pete Corp., Adams 1, 35-1n-2e, dr 700 ft. Gallatin Valley Oil Co., Haglund 1, sw 13-34-6w, sd 2539 ft.

GLACIER—Fulton Blackfeet Oil Co., ne 28-36-12w, recem 2950 ft, to bring in rotary.

GOLDEN VALLEY — Golden Valley Oil Co., 28-6n-22, dr 2970 ft.

LIBERTY—Northland O&G Corp., Yurman 1, sw 32-33-5e, dr resum 3820 ft. California Co., Ross 1, ne 3-33-6e, dr 2840 ft.

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in.—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

MUSSELSHELL — Minn-Flatwillow Pete Co., 1, sw 7-11-31e, to res at 2556 ft.

PONDERA—Bell-Adams 1, ne 31-27-4w, mvg in.

SWEETGRASS—Shoshone Cons., nw 23-2n-15e, stand 5500 ft.

TETON—California Co.'s Sullivan 1, nw 34-28-7s, sd for winter, td 2810 ft. Earl Oil Corp.'s Gad 1, se 22-22-8w, sd 2850 ft, to resume Apr. 1.

TOOLE—Oregon Synd., se 20-36-2e, damaged casing shoe, td 2268 ft. Western Nat'l Gas Co., nw ne 26-37-4e, to be dd from 1813 ft, sd all storage filled.

YELLOWSTONE—Peter Antonioli, ne ne 21-2n-25e, casing shoe lost, sd 2470 ft.

COLORADO

ADAMS—Hills Dome Lease Dev. Co., se 27-3s-54w, dr 3970 ft.

ARAPAHOE—McDeb Drlg. Co., Fitzsimons 1, ne 7-4s-66w, dr 5946 ft, show 5935 ft.

ARCHLETA— Oil City Pete Co., Fitzhugh 1, sw 34-33n-1e, sd for fuel, td 717 ft, much gas show.

BOULDER—Julius Williams, Degge 1, 6-1n-71, dr bel 1250 ft last report, probably sd. Ahlstrand et al, Woodley 1, nw 8-3n-70w, sd 565 ft.

ELBERT—Belmont Oil Co., sw 27-3n-64w, sd 3745 ft. Progressive O. & L. Co, Pease 1, se 27-10s-66, sd 3820 ft.

EL PASO—Gulf States Oil Corp., Carson 2, ne 10-16-66, sd 1126 ft. Utemore Synd., Carson 2, ne 10-16s-66, to resume 1025 ft.

GRAND—Oil Mineral Lands, Inc., McElroy 1, sw 14-2-81w, sd 545 ft.

JEFFERSON—Ruby Hill O&G Co., Braden 1, se 34-4s-59w, dr 4270 ft.

LA PLATA—McGarr Pete Co.'s Pinon Mesa 1, ne 34-33-12, rig up. J. W. Irwin & Co.'s Doescher 1, nw 29-33-13w, sd 3175 ft. Phipps et al, sw 9-33-13, td 520 ft.

LARIMER—Mayer et al, Reed 1, nw 28-4n-60, 6⅝ inch landed at 3050 ft, td 3150 ft. Natural Gas & Oil Co., Meade 1, se 17-4n-69w, sd 1900 ft. Colo. Prod., Inc., Foster-Motz 1, se se 17-4-60, cem cave, td 1435 ft. Colo. Prod., Inc., Hogsett 1, se ne 20-4-60, spd and sd. C. Leonard Smith's State 1, 36-12n-70, prep to res, td 760 ft. Poudre River Oil Co., se nw 34-8n-69w, sd for 8¼-inch, td 1996 ft. Consolidated Drlg. Co., Maxwell 1-A, ne 25-8n-70, to res at 285 ft. Coulter et al, se 4-4n-70, spd 200 ft.

LINCOLN—Eastern Colo. Oil Corp., State 1, 36-14n-57w, sd 3449 ft.

MOFFAT—Ohio Oil Co., Bogenschultz 1, se 9-6n-91, 11M 2781 ft.

MORGAN—Badger Creek O&G Co., sw 2-2-57, stand 1340 ft. Platte Valey Pete Co., sw 29-6n-60, cellar.

PARK—So. Park O&G Co., Milligan 1, se 13-8s-76w, cem cave, co at 2687 ft. South Park O&G Co., Esche 1, ne 5-9s-76w, sd 2442 ft.

RIO BLANCO—California Co.'s Raven 1, se 20-2n-102, dr 3808 ft.

ROUTT—Mid-Colo. Pete Corp., Omholt 1, se 29-4n-97, sd 1700 ft.

WASHINGTON—Middlemist Oil Co., Middlemist 1, se 14-4-56, sd 1503 ft.

WELD—Conoco, Gadbois 1, sw 24-6n-61w, still testing, td 6701 ft. Reiter-Foster Oil Co., Johnson-Juhl 1, se 14-6n-61, cem back to -262 ft, to shoot and test Timpas lime.

NEW MEXICO

BERNALILLO — Norrins Realty, Pajarito Grant 1, 29-9n-2e, sd 1185 ft.

CHAVES—Warman Oil Trust, Evans 1, 15-14s-25e, sd 703 ft.

DE BACA—Matador Oil Co., Wood 1, ne 6-4n-20e, sd 3500 ft, wait for orders. • Landowners Oil Co., State 1, ne 16-1s-27e, run 6⅝ inch at 4675 ft.

DONA ANA—Middle Sts. O&G Co., Boretzi 1, 14-26-5e, rigged.

GUADALUPE—N. M. Prod. & Ref. Co.,

McMillan 1, 24-5n-16e, 8⅝ inch cem 4005 ft, co.

LEA—Baker Oil Co., Inc., sw nw 15-13s-33e, mvg in.

LUNA—Angelus O&M Co., State 3, se 30-21-10, try to reset cas at 6171 ft.

OTERO—Ernest et al's 1, se 20-25s-7e, stand 1445 ft. Pasotero Oil Corp., Evans 1, sw 32-5s-30, rig.

RIO ARRIBA—Berrenger et al's Hartman 1, ne 8-29n-7w, sd 825 ft. Governador Oil Co.'s 1, 15-29n-7w, dr 2005 ft, carry 5 3/16-inch cas last report.

ROOSEVELT—Peterson et al, Good 1, 32-5s-30e, rig up.

SAN JUAN—Kutz Canon O&G Co., Day 1, se 20-28n-10w, sd 3742 ft. Rio Grande Dev. Co., 2, 9-26-11, sd 1771 ft. Continental Oil Co.'s Rattlesnake 24, 1-29-19w, run sand tester 6975 ft. San Juan Lease holds, Bowman 3, nw 30-30-15, sd 2685 ft. Williams et al, Stallings 1, sw 17-25n-15w, stand 150 ft.

SANTA FE—Jones, Owsley et al, 5-10n-9e, sd 435 ft. N. M. Securities Co., sw 6-10n-7e, sd 480 ft.

SAN MIGUEL—Starr Oil Co., Adams 1, ne 25-17n-16e, fsh pipe 5095 ft. Hershfield Dev. Co., Cabra Springs 1, ne 21-12n-22e, prep to run 8¼-inch, td 2250 ft.

WYOMING

CARBON—Midwest Refining Co.'s U. P. 27, 27-11-81, sd for winter. Prairie O&G Co., Bunker Hill 1, 29-27-87, sd for winter, td 6147 ft.

CONVERSE—John Ackard, se 24-33-72, sd 1820 ft.

CROOK—Northwestern Oil & Natural Gas Co., 6-54-60, sd 1585 ft for winter.

FREMONT—Wiebolt et al, 35-33-99, wait for 5 3/16 inch at 2620 ft. Yellowstone Oil Co., sw 14-39-94, stand 1000 ft. Ward O&G Co., 28-34-90, mvg in rotary.

LINCOLN—Wyo. Prod. Co., 14-24-113, td 1700 ft.

NATRONA—Mutual Oil Synd., Midway 2, sw se 14-35-79, ready to spud. Summit Oil Co., 21-33-80, sd 1387 ft. Wyo. Imperial Oil Co., sw 13-33-79, rig up.

NIOBRARA—Fall River Roy. & Internat'l O&R Co., Joint Globe 1, 2-39-61, sd 600 ft.

PARK—Resolute Oil Co., Badger Basin 2, 16-57-101, location.

SHERIDAN—R. & D. Oil Co., se 21-57-87, sd 1300 ft.

WASHAKIE—Bales Oil Trust, nw 31-48-80, sd for winter at 1100 ft.

WESTON—LeFaivre Oil Synd., se 29-45n-68w, stand 1250 ft. Julius Peters et al, Weitzell 1, se nw 30-46-64, resum 3400 ft, to dr 100 ft deeper. Stockade Anticline Synd., 32-45-60, sd. Gose Oil Synd., Gose 1, 28-47-65, sd 5050 ft.

OKLAHOMA

ALFALFA COUNTY—T 27n, R 11w, Sec. 12, Smith Bros.'s Forbes 1, ne c se nw nw, sd 1420 ft.

KAY COUNTY—T 27n, R 2e, Sec. 9, Mummer et al's Sornick 1, nw c se, sd 3693 ft.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden's Vollmer 2, ne c se ne sw, sd 5640 ft.

ALFALFA COUNTY—T 24n, R 11w, Sec. 14, J. V. Bailey's Acre 1, c sw ne, sd 5502 ft.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse and Beamer's White 1, se c nw, sd 5850 ft.

BLAINE COUNTY—T 19n, R 10w, Sec. 13, Washoma, Phillips 1, c nw sw, sd 5120 ft.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Healey et al's Quier 1, se c sw, sd 3970 ft.

PAWNEE COUNTY—T 20n, R 5e, Sec. 6, W. A. Rookstool's Berry 1, nw c ne sw, sd 1951 ft.

LINCOLN COUNTY—T 17n, R 5e, Sec. 6, W. A. Rookstool's Berry 1, nw c ne sw, sd 1951 ft.

LINCOLN COUNTY—T 17n, R 5e, Sec. 36, Mote et al's School land 1, nw c, dr 1410 ft. T 14n, R 3e, Sec. 2, Hilton Phillips et al's Phillips 1, sw c nw, dr 3550 ft.

CREEK COUNTY—T 14n, R 7e, Sec. 18, Cal Cul's Holleuman 1, se ne se, fsh 705 ft.

LINCOLN COUNTY—T 13n, R 6e, Sec. 8, Atlantic's Beebee 1, ne sw sw, 8-in 4357 ft td 4360 ft.

PITTSBURG COUNTY—T 7n, R 14e, Sec. 34, Tape Oil Co.'s Fulsom 1, se c, sd 1705 ft.

LATIMER COUNTY—T 6n, R 19e, Sec. 16, P. English's Weaver 1, c nw se, sd 1542 ft.

PITTSBURGH COUNTY—T 5n, R 14e, Sec. 9, W. B. Hailey's Coal land 1, ne c sw, dr 1250 ft.

ROGER MILLS COUNTY—T 12n, R 24w, Sec. 23, Ute Oil Co.'s Williams c sw, sd 5150 ft. T 11n, R 26w, Sec. 4, J. J. Rook and Palmer's Davis 1, c nw ne (owd) sd 3420 ft.

CANADIAN COUNTY—T 10n R 6w, Sec. 1, J. V. Bailey's Robinson 1, c ne nw, sd 150 ft.

WASHITA COUNTY—T 9n, R 17w, Sec. 23, Miley Pet. Corp.'s Chapman 1, ne c sw, rig. T 8n, R 19w, Sec. 29, Cooper and Terhune's Blocker 1, nw c, sd 2757 ft. T 8n, R 18w, Sec. 21, Burns & Prince's Dock 1, sw c, sd 1265 ft.

GREER COUNTY—T 7n, R 21w, Sec. 23, French et al's Murphy 1, sw c nw se, sd 1654 ft.

CADDO COUNTY—T 5n, R 9w, Sec. 6, Mid-Kansas & Ramsey's Culp 6, nw c ne, td 10,079 ft small sho oil and gas; pb to 6780 ft, shot 80 qts 6750-80 ft no sho, pb to 6094 ft ripped pipe at 6077-89 ft, show ¶3 gas and 20 bbls salt water; cemtg off wtr at 6094 ft.

COMANCHE COUNTY—T 4n, R 12w, Sec. 33, Snodgrass et al's Willetts 1, ne c nw, sd 515 ft.

GARVIN COUNTY—T 2n, R 42w, Sec. 24, Malernee's Phillips 1, ne c sw, sd 4800 ft.

COAL COUNTY—T 1s R 8e, Sec. 2, Rabial Oil Co.'s Richardson 1, ne c nw sd 1450 ft.

ATOKA COUNTY—T 3s, R 10e, Sec. 18, Brookshire et al's Quinn 1, nw c, sd 1720 ft.

KANSAS

SUMNER COUNTY—Trees Oil Co. & Shell, Springate 1, ne se sw, 6-34-2e, 8-inch 2268 ft, dr 2291 ft.

KINGMAN COUNTY—Panhandle Drlg. Co., Wetherall 1, c se nw sw, 20-28-10w, sd 890 ft.

PRATT COUNTY—Ninnescah O&G, Hardesty 1, sw se se, 28-27-11w, rog.

EDWARDS COUNTY—Mid-Kansas, Converse 1, sw ne ne, 30-24-18w, rog.

HARVEY COUNTY—Liggett et al, Davis 1, c sw se ne, 7-24-1e, sd 2500 ft.

FINNEY COUNTY — National Ref. Co., Wells 1, sw c, 12-23-30w, dr 4100 ft.

HARVEY COUNTY—Joe Liggett, Voshell 1, ne sw, 3-23-3w, lcn.

RENO COUNTY—Jarvis & Wright, Rainbow 1, nw nw se, 33-22-7w, rig.

HARVEY COUNTY—D. R. Lauck, Regier 1, sw se nw, 9-22-3w, rog.

RICE COUNTY—Joe Liggett et al, Thodel 1, c nw nw 11-21-7w, spd and sd.

McPHERSON COUNTY—Twin Drlg. Co. et al, Farver 1, sw se, 16-20-1w, Wx 3486-95 ft, hfw. D&A 3495 ft, td.

BARTON COUNTY—Skelton Oil, Ott 1, c se se, 16-19-14w, sd 3375 ft, csg trbl.

RICE COUNTY—Gypsy, Steckle 1, c ne nw, 31-19-10w, top sil. 3299 ft, td 3325 ft, hole full oil.

McPHERSON COUNTY — Deitrick et al, Sinclair 1, se sw, 25-19-1w, rig.

RUSH COUNTY—Shelton-Schleagel, Brock-Hartman 1, sw se nw, 4-18-12w, spd and sd.

BARTON COUNTY — Morgan & Flynn, Haas 1, ne sw, 30-18-15w, lcn abn.

MORRIS COUNTY—Urschel et al, Bersuch 1, c nw se nw 10-17-7e, sd 915 ft.

ELLSWORTH COUNTY — Raymond Gear et al, Sauberli 1, c sw se, 29-16-9w, spd and sd.

MORRIS COUNTY—Kastle et al, Furney 1, ne se, 16-16-8e, spd and sd. Hankenson et al, Cessnum 1, sw se, 24-17-9e, sd 2625 ft.

RUSSELL COUNTY—Tom Palmer et al, Pasek 1, c se, 3-14-11w, td 3427 ft, csg trbl.

OSAGE COUNTY—Riggs-Smith, Wood 1, c se nw, 31-14-15e, td 2200 ft.

RUSSELL COUNTY—James Brennan, Walz 1, cwl e½ nw 29-13-11w, ru and sd. Twin Mounds Oil, Weis 1, c w½ ne nw, 30-13-4w (owd), td 2710 ft.

DICKINSON COUNTY—Severs et al, Livingood 1, ne sw, 13-13-2e, sd 4752 ft.

SHERIDAN COUNTY — Flo et al, Shoemaker 1, se sw sw, 27-27-26w, 6-inch 4143 ft, dr 4248 ft.

WASHINGTON COUNTY—Sincox, Penwell 1, nw se nw, 16-3-3e, sd 1720 ft.

RAWLINS COUNTY—Danciger et al, Unknown 1, sw c, 3-2-35w, 6-inch 3875 ft, hfw 3925 ft, sd.

ARKANSAS

CLAY COUNTY—S. C. Jeffus, Tr.'s, Underwood 1, 4-20-8e, sd 1260 ft.

CLEBURNE COUNTY—Frank S. Craver's Donithan Lbr. Co. 1, 35-11-9, sd 3470 ft.

CLEVELAND COUNTY—Crum & Stilwell's Bell 1, 10-10s-10w, rigged up and sd.

COLUMBIA COUNTY—Kendall Oil Co.'s Fullenwider & Kitchen 1, ne ne 13-17-22, sd 814 ft.

DALLAS COUNTY—Zepp O&G Co.'s Hillman 3, nw ne 20-10-13, lcn. Jno. James, Tr.'s, Fordyce Lbr. Co. 1, 11-9s-15w, dr 2569 ft, blue chalk.

DREW COUNTY—Cooperative Dev. Co.'s Ogles 1, ne nw 35-15-5, sd 1890 ft.

HOT SPRINGS COUNTY—Starr Oil Co.'s Cunningham 1, 11-5-16, co, td 1262 ft.

LINCOLN COUNTY — L. B. Cook, Tr.'s McGehee Pltg. Co. 1, 5-8s-7w, sd 2985 ft.

LITTLE RIVER COUNTY—Fay Roberts Oil Co.'s Russell 1, 25-12-29, lcn.

LOGAN COUNTY—M. W. Greesom's Parks 1, 21-8-24, sd 1309 ft. J. H. Flowers' White 1, 13-5-26, sed 3610 ft.

MILLER COUNTY—C. H. Lichfield's Harvey 1, nw nw 2-15-26, dr 1190 ft (old test dr to 890 ft by East Texas O&G Co.) W. E. Noel et al's Dickson 1, 11-20-27, sd 1955 ft. Fitzwater et al's E. L. Beck 1, sw se 33-15-26, sd 2220 ft.

OUICHITA COUNTY—W. H. Copenhaver et al's Berg 1, se se 13-15-17, fsh 3 joints ds, td 2011 ft.

PIKE COUNTY—Kentucky-Ark. O&G Co., Inc.'s, Tilyou 1, 26-8-24, ta 2920 ft; East 1, 13-9-23, 10-inch 288 ft, sd 1812 ft hd rock, acct high water.

PRAIRIE COUNTY — Powell O&G Co.'s Kloss 1, ne nw 3-4n-6w, partly rigged up and sd.

SCOTT COUNTY — Heavener O&G Co.'s Reser 1, 36-4-26, sd 1436 ft. Waldron O&G Co.'s J. G. White 1, 17-3n-29w, sd 1860 ft (second hole).

SEBASTIAN COUNTY—M. W. Greesom's Spears 1, 9-7-29w, sd 1536 ft.

SEVIER COUNTY — Tri-State O&G Co.'s Bank of DeQueen 1, 34-8s-32w, sd 950 ft.

ST. FRANCIS COUNTY—Walmer Oil Co.'s White 1, sw nw 1-4n-2e, sp dr 1075 ft.

UNION COUNTY — Southern Prod. Co.'s Wingfield 1, 16-19-15, co td 2608 ft. Lion O&R Co. et al's Guy P. Hayes A-9, ne ne 4-16-15, elev 96 ft, arr to res lub to recov hung ds, td 7255 ft salt. Drillers Oil & Dev. Co.'s Pickering 1, 1-17-16, ta 2166 ft; Haney 1, nw se 1-17-16, sp 10-inch 103 ft, td 112 ft. Modisette et al's Union Sawmill 1, sw nw 13-18-13, 10-inch 167 ft, top sand 2266 ft, tested sw slight oil show, 2266-80 ft sd 2280 ft. Hill et al's Barnes 1, ne ne 21-19-15, dk.

WASHINGTON COUNTY—C. H. Willoughby's Jones 1, 34-16-30, sd 2150 ft.

YELL COUNTY—T. Luckett's Balcon 1, 36-7-12, ta 5640 ft.

NORTH LOUISIANA

Company, Well and Location—		Initial Production Bbls	Depth
BOSSIER PARISH—			
Triangle Drilling Co., Nuckolls 1, 7-22-12	*		2804
DE SOTO PARISH—			
Rellitt O&G Co., Cannon Hrs. 1 12-11-16	*		1965
NATCHITOCHES PARISH—			
Dr. Gerson et al, Smith Island 1, 11-10-8w	*		585
Cooper et al, Cooper 2-A, 32-11-10	*		1515
C. M. Talley et al, Talley 1, 29-11-10	*		1360
SABINE PARISH—			
Texas Co., Glaque B-1, 10-7-13	*		2560

BOSSIER PARISH — Dr. Hankins et al's Newell 1, 12-19-11, sd 1890 ft. Triangle Drilling Co.'s Nuckolls 1, sw ne 7-22-12, dry abn, td 2804 ft.

CADDO PARISH—Pelican Nat. Gas Co.'s Cooper 1, 29-18-14, ta 3648 ft, red shale and lime. Louanna O&G Co. Inc.'s, Hammock 1, se se 32-19-16, chalk 1350 to 1735 ft, elev 258 ft, sd 2482 ft. Caltex O&G Co.'s Hudson 1, 8-16-16, 10-inch 80 ft, sd 2800 ft.

CALDWELL PARISH—Monroe Pet. Corp.'s

Burton 1, 36-12-2e, sd acct titles 2986 ft. Carter Bell et al's Taylor 1, 17-14-4e, sd 1100 ft.

DE SOTO PARISH—A. R. Smith's Horn 1, nw se 15-12-16, sp and sd. Rellit O&G Co.'s Cannon Hrs. 1, 12-11-16, dry abn after show gas, td 1965 ft. E. T. Oakes' Johnson 1, 30-13-15, dr 3330 ft shale. Walters & Nicholson's Jim Guy 1, 3-11-13, sr, td 1785 ft. De Soto Dev. Co.'s Nickie 1, sw se 7-13-12, dk.

NATCHITOCHES PARISH—C. M. Talley et al's Talley 1, 29-11-10, dry abn, td 1380 ft. J. W. Cooper et al's Cooper 2-A, 35-11-10, elev 180 ft, dry abn, td 1515 ft. Gerson et al's Smith Island 1, sw nw sw 11-10-8w, 12½ cas 90 ft, had gas and sw blowout, est 3 to 5 mil ft gas 7000 bbls sw, out of control for some time, killed, sw abn, td 585 ft; Smith Island 2, 11-10-8w, cemtd 6-inch cas 457 ft, blew out est 3 mil ft gas and some sw, closed in, wo td 512 ft; Smith Island 3, 6-10-8w, lcn. W. M. Coats' Ross Oliver 1, nw se 10-9-10w, dk pat. R. A. Keator's Stephens 1, 25-10-6w, 12½ cas 178 ft, sd.

OUACHITA PARISH—S. C. Wilson's W. L. Williams 1, sw se 5-16-1e, 12½ cas 180 ft, cored 10-inch sand showing oil at 2760 ft, fsh ds, td 2760 ft.

RICHLAND PARISH—National Gas Co.'s Singletary 1, 20-18-7e, sd 2515 ft.

SABINE PARISH—J. J. Kean's Belton 1, nw se ne 31-9-13, 8-inch 1590 ft, chalk 1590-2115 ft, dr 3014 ft. R. L. Gay, Tr.'s Long-Bell A-1, nw nw 10-8-13, elev 265.4 ft, top Glen Rose 4204 ft, recov 6 ft core in oolitic lime showing oil, 4666-72 ft, cemtd 7-inch OD cemtd at 4725 ft, td 4772 ft. Texas Co.'s Giaque B-1, 10-7-13, sw, abn td 2560 ft. A. H. Thames' Edwards Est. 1, 8-8-13, arr abn, td 1200 ft. Geo. LeGrand's McGough 1, 3-8-10, dk. Root Ref. Co.'s Peterson 1, sw ne 34-7-13, co td 2243 ft. Loring Oil Co.'s Bowman-Hicks 18, sw nw 15-7-12, elev 264.1 ft 9¾ cas 3950 ft, top lower Cretaceous 3998 ft, sr td 4662 ft. Frank Foster, Inc.'s, Stevens 1, ne nw nw 20-9-11, elev 269 ft, chalk 1765-2235 ft, blew out est 20-25 mil ft, gas spray, sw, trace oil, ds hung, gas killed, trying pull ds, td 3357 ft (Washita sand). Hudson & Bird's Walden 1, sw ne 26-8-11, elev 290 ft, sd 2454 ft chalk. J. J. Hall's Williams 1, 3-7-10, dk. Broderick & Calvert's Costella 1, se nw 2-7-14, lcn.

TENSAS PARISH—A. R. Willis' Curry 1, 39-11-12e, sd 3545 ft. Stovall Drilling Co.'s Miller 1, 10-10-10e, lcn abn.

WEBSTER PARISH—Wadley et al's Matthews 1, 11-23-9, ru and wo.

MISSISSIPPI

CHICKASAW COUNTY — Hightower & Golson's Fleming 1, 20-13-3e, ta 1640 ft.

HINDS COUNTY (Edwards Dist.)—Miss. Minn. Oil Co.'s Edwards Land Co. 1, sw ne 23-6n-4w, 12-in cas 110 ft, cor 1060 ft.

JASPER COUNTY (Bay Springs Dist.)—Bay Springs Pet. Inc.'s, J. H. Keyes 1, nw ne 21-2n-10e, ta 3408 ft Wilcox.

LAMAR COUNTY (Purvis Dist.)—Staffer & Kouri, Tr.'s, Bond 1, se ne 18-2n-14w, sp.

LOWNDES COUNTY — Lowndes County O&G Co.'s Carr Est. 1, ne nw 34-17n-16e, rig.

MONROE COUNTY — P. J. McAlpine's Cowart 1, 2-12s-19w, ta 3793 ft, brown sandy lime.

NEWTON COUNTY (Newton Dist.)—Dalton Dev. Co.'s Majure 1, se se 25-6n-11e, 10-inch 295 ft, rebldg dk, td 1420 ft.

NOXUBEE COUNTY (Macon Dist.) — Thompson O&G Co.'s Donahue 1, se ne 25-16n-17e, elev 280 ft, sd 1735 ft; Ames 1, nw nw 24-16-18e, dk pat.

RANKIN COUNTY (Jackson Dist.)—Atkisson & Dyer's Valentour 1 ,nw nw 18-5-2e, elev 270 ft, cemtd 6⅝ cas, td 2412 ft chalk. Majestic O&G Co.'s Elton Lbr. Co. 1, 10-4n-3e, dk.

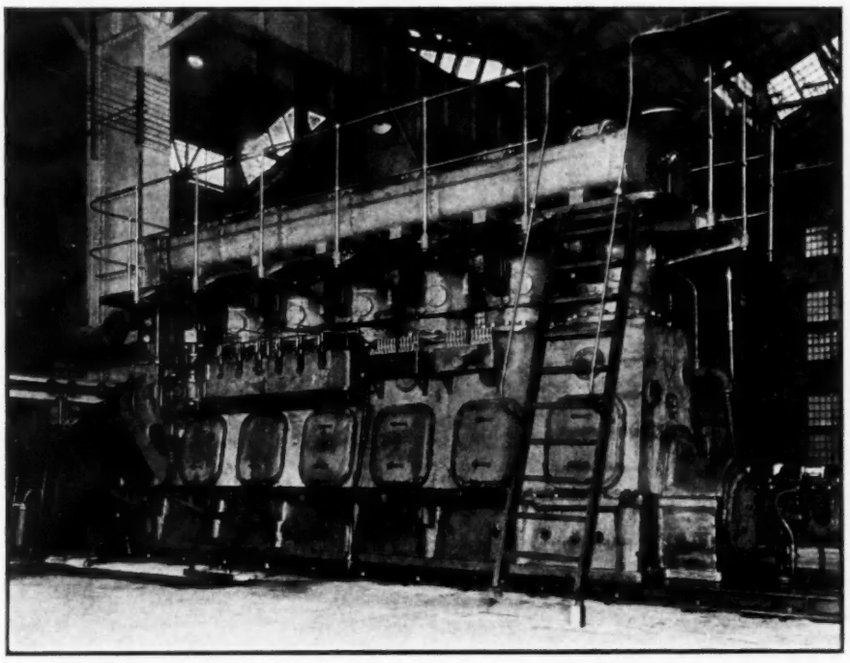
SCOTT COUNTY—Culley et al's Owen 1, 2-8n-9e, dk.

SHARKEY COUNTY (Nitta Yuma Dist.)—United Gas Pub. Serv. Co.'s Lenhart 1, sw se 14-14n-6w, elev 100.6 ft, 10-inch 975 ft, sd 1165 ft acct high water.

STONE COUNTY—Hercules Sulphur Expl. Synd.'s Lang 2, sw sw 28-3s-11w, sd 1754 ft, hd lime.

WARREN COUNTY (Vicksburg Dist.)—Eagle Lake O&G Co.'s Kiger 1, sw ne 9-18-2e, sd 2607 ft.

WEBSTER COUNTY — P. J. McAlpine's Henley 1, se nw 15-21-11e, cored gravel, sd 1800 ft.



One of the eight 750 b.hp. 6-cylinder Model VA De La Vergne Diesels recently purchased by one of the large oil pipe line companies. The engine is being tested in the shop prior to shipment.

6000 RELIABLE HORSEPOWER . . FOR A MAJOR OIL PIPE LINE COMPANY

THE record maintained by De La Vergne Diesels for the past quarter century as truly reliable, economical prime movers for pipe line pumping service warranted the recent purchase of eight 750 b.hp. Model VA De La Vergne Diesels by one of the large oil pipe line companies. These will be used for trunk line service in the Middle West.

The continued increase in the number of De La Vergne Diesel Engines in this field where dependable, steadfast operation is absolutely essential and forced shut-downs prohibited, is obvious evidence of this company's leadership. Leadership founded and maintained on sturdy, substantial engine construction and design.

Without incurring any obligation, our engineers will be pleased to discuss with you the reasons that have created such a definite preference for De La Vergne 4-cycle, solid-injection Diesels.

DE LA VERGNE ENGINE CO.

SALES AGENT FOR BALDWIN-SOUTHWARK CORP.

DIESEL DIVISION

PHILADELPHIA, PA.

Spartan Steel Co.'s
New Cable Tool Hardfacing
Saves Drilling Expense
BOX 804 COMPTON, CALIFORNIA

HIRSCH, BROWN AND SUSMAN
Attorneys at Law
32nd Floor Gulf Building
Houston, Texas
Specializing in Oil Law and Land Law

Do you need photographs of your equipment in use in the field? We specialize in photographs of oil field equipment in the Gulf Coast territory.

Merchant-Thayer & Co.
415 Louisiana St. Preston 2526
HOUSTON, TEXAS
Successors to
CALVIN WHEAT COMMERCIAL STUDIO

PATENTS
JESSE R. STONE
and **LESTER B. CLARK**
Patents, Infringement Litigation, Trade Marks
Associated with
Andrews, Streetman, Logue & Mobley
2200 Gulf Bldg. Houston, Texas
Capitol 7245

PATENTS
Patents Obtained and Trade Marks and Copyrights Registered
HARDWAY & CATHEY
428-29-30 Bankers Mortgage Bldg.
Phone Fairfax 8232 Houston, Texas

William M. Barret, Inc.
Consulting Geophysicists
Specializing in Magnetic Surveys
Contracts accepted for domestic and foreign projects, using the most improved instrumental and interpretative technique.
GIDDENS-LANE BUILDING
SHREVEPORT, LOUISIANA

THE FORT WORTH LABORATORIES
Field Gas Testing. Analysis of oil field brines, gas minerals and oil.
Sell Thermometers, Hydrometers and Laboratory Glassware.
F. B. Porter, B. S., Ch. E., Pres.
R. H. Fash, B. S., Vice-President
828½ Monroe St., Ft. Worth, Tex.

HOTEL PENNSYLVANIA
39th & CHESTNUT ST. · PHILADELPHIA
ROOM-BATH $2.50
New — Fireproof — Convenient
Nearest Hotel to Penna. R.R.
Terminal

TEXAS GULF COAST

AUSTIN COUNTY—C. O. Farrington et al's Nannie T. Jackson 1, Brookshire prospect, spd and set 60 ft surface csg. Great Southern Drilling Co.'s F. Schovajsa 1, 3 mi s Bleiberville, sd at 1900 ft. Grant et al's A. A. Chesley 1, Raccoon Bend Dist., ru. Gillis & Vogelpohl's Tranchman 1, J. C. Cumings Hacienda sur, ru.

BELL COUNTY—J. W. Riley et al's W. S. Chaffin 1, 5 mi sw Heidenheimer, sd at 430 ft.

BRAZORIA COUNTY — The Texas Co.'s Cave 2, Damon Mound, core 3728-35 ft no show. Layne Texas Co.'s Wisdom 9, Damon, dr gbo 1672 ft, set 12½-inch cas at 425 ft. W. D. Southerland et al's C. W. Chapman 1, Lockridge, ru to dpn, old td was 1514 ft.

CHAMBERS COUNTY — Pure Oil Co.'s Mayes 14, Lost Lake, completed for 538 bbls at 2819 ft. Joe Bashara's Tarbutton 2, Barbers Hill, dr out cmt plg at 3410 ft after sticking scr at 3391 ft, td 3631 ft in oil sand. B. B. McDaniel's J. F. Wilburn 5, Barbers Hill, comp for 685 bbl at 4325 ft. The Texas Co.'s Wilburn 6 (wo) prep to set cas, cored sn and shale shwg oil at 4986-5000 ft; Wilburn 7, (wo) pumped 51 bbls in 16 hrs at 4422 ft; Wilburn 8, completed for 70 bbls at 4407 ft.

FALLS COUNTY—O. B. Perot's J. C. Gorman 1, I. Golinda sur, lcn 300 ft from n and 500 ft from w line of 65-ac tract in Blk 15. Joe E. Curton's G. London 1, P. Zarza sur, sd 160 ft. Ed. W. Bateman's J. Czakowski 2, ready to spud.

FORT BEND COUNTY — Naylor & De Costa's Naylor 1, 1½ mi n Thompson Station, sd at 140 ft. Cullen & West & Gulf Prod. Co.'s Lockwood 2-B, dk 600 ft w of B-1, Rabb Ridge; George 3, Rabb Ridge, oil sand 5130-42 ft, r to set; H. P. Lockwood 3, n offset to George 3, Rabb Ridge, ru. Gulf Prod. Co.'s T. R. Booth 1, Rabb Ridge, 4457 ft, dr. Jas. T. O'Hara's T. A. Brown 1, Pilant Lake, dr 1594 ft gbo.

GRIMES COUNTY—Stanolind O&G Co.'s Mary Sullivan 1, ne of Plantersville, Asa Yeaman's sur, td 500 ft, set surf. cas.

HARRIS COUNTY—Flannigan et al's Woodburn 1, Genoa Dist., lcn 200 ft out of nwc of August Whitlock sur. Moody-Pure Oil Co.'s Hermann Est. 1, Pierce Jct., dr sn rk 932 ft. Joe H. Burt et al's C. O. & G. Texaco Fee 1, (wo), Humble, temp abn at 2282 ft after showing for oil at 2125 ft.

HOUSTON COUNTY — Ramsland et al's Pennington 1, R. Harza Survey, 4 mi w Grapeland, sd 2290 ft. Irish Oil Co.'s Wooters 1, J. J. Ellis sur, sd at 650 ft. Morgan Oil Co.'s D. Austin 5, F. Johnson sur, dr 603 ft.

JASPER COUNTY—Hext Drlg. Co.'s Flournoy 1, sd at 4080 ft after cmtg 2200 ft of 6⅝ inch cas.

JEFFERSON COUNTY—Pittman & Elam's Broussard 1, 2 mi w Sabine, dr 2280 ft. Jack Schmidt's M. C. Todd 1, lcn 600 ft from n and 160 ft from w lines of 713 ac tract in Wm. Carr sur, Cheek dome. Jack Schultz (M. P. Brown or Ft. Worth Dev. Co.'s) O. M. Todd 1, Cheek dome Dist., dr 3107 ft gbo.

MATAGORDA COUNTY—Duval Texas Sulphur Co.'s Smith 3, abn at 1787 ft. United North & South Dev. Co.'s Stoddard 1, Buckeye Dist., oil sn at 7828 ft, r to set 6⅝ cas; McDonald 1, td 3698 ft, plugging back to 3581 ft. P. S. Griffith's L. Baer 1, S. Ingram sur, dr 450 ft. L. P. Smith's Hudson 2, Markham, dr gbo 3040 ft. Claud B. Hamill, Tr.'s, Northern Irrigation Co. 1, ne flank of Markham, ru.

MILAM COUNTY—Frank A. Yeager's L. Hoes 1, 2½ mi sw Rockdale, preparing to put on pump at 1680 ft after two showings at 1402 and 1441 ft.

MONTGOMERY COUNTY — Heep Oil Corp.'s R. L. Cartwright 1, Jno. A. Davis sur, dr below 4200 ft. No specific report available. Pevehouse Oil Co.'s Sealey 1, dr in hard, blue, sticky gbo at 3900 ft.

ORANGE COUNTY — Ala-Tex Oil Co.'s Reed 1, 2½ mi se Orange, dr sh 3991 ft. Crews Oil Co.'s Mansfield 1, sd at 2275 ft.

SAN AUGUSTINE COUNTY — Baker & Smith's Pickering Lbr. Co. 1, E. Quirk Hrs, partly ru and sd. Jones & Tennant's W. P. Davis 1, A. G. Hale Hrs., sd in sandy shale at 2820 ft.

SOUTH TEXAS

ATASCOSA COUNTY—American Central O&G Co.'s McConnell 2, Blk 138, Baker sur, dr 1681 ft.

BASTROP COUNTY — Birdwell et al's White 1, Nancy Roberts sur, 4 mi se Belton, sd 540 ft. Humble O&R Co. & Sun Oil Co.'s Powers et al 1-B, Blk 197, 4 mi ne Bastrop, dr 4039 ft. Marts & Beaven's Wm. Bahm 2, J. Standifer sur, abn 1604 ft; R. L. Carter, Geo. Glasscock sur, 3 mi e Elgin, spud in.

BEE COUNTY—Barnsdall Oil Co. & Coquat's L. Roberts 2, Jno. Pace sur, Pettus-Cosden, lcn. J. M. Davis et al's Geo. Ray 1, 1000 ft sw discovery, Jno. Williamson sur, Pettus (Damac) abn 4152 ft, (correct depth). Houston Oil Co.'s Portis 4, e offset Portis 3, A. Smalley sur, Pettus (Damac), abn 4410 ft (correct depth). Humble Oil & R. Co.'s Laura Thompson 1, Garrett Roche sur, sd 5310 ft. Humble O&R Co. & Hulburt et al's J. C. Wood 1, P. T. Irrigation Co. sur, 5 mi se Beeville, sd 5077 ft. Pettus O&G Co.'s Mauldin 1, Geo. A. Kerr sur, Pettus, ru. T. B. Slick Estate, Inc.'s, Geo. A. Ray 5, e offset Ray 3, G. A. Kerr sur, Pettus (Damac) sand 3886-91 ft, set 6⅝ inch csg 3885 ft, completed 120 bbls, increase to 300 bbls.

BEXAR COUNTY—Alamo Nat'l Gas Co.'s G. J. Gembler 3, A. Menchaca sur No. 51, Eckert, dr 1172 ft. Anderson, Ingersoll & Miller's Stenburg, 9 mi sw San Antonio, F. Rolen sur, no rept. S. W. Blount's S. A. Land & Dev. Co. 1, 1 mi e of Medina River on Palo Alto Dr, 12 mi s San Antonio, sd 650 ft. Chiquita Oil Co.'s E. H. Cooksey 3, J. W. Rialls sur, Cooksey, lcn. Eckert & Son's Louis Brehm 1, Eckert pool, lcn; Sandemer 9, Eckert pool, spud in; Sandemer 10, Eckert pool, lcn. Gatlin Oil Co.'s I. A. Beck 11, J. Montez sur, Eckert pool, dr 500 ft. Jones-Volz's F. Bonkowsky 6, dr 650 ft. Ewell Neill's J. M. Watson 1, Martinez sur, 10 mi s San Antonio, sd 2375 ft. Schneider, Rees et al's Claussen 1, ne San Antonio, S. J. & A. Sur No. 17, sd 1143 ft. W. R. Swearingen et al's J. E. Halbardier 8, Perez sur, Eckert pool, set csg 650 ft, woc. W. K. Oil & Gas Co.'s Strunk 5, Montez sur, Eckert pool, dk.

BLANCO COUNTY—Hardy Sitton's Standeford 1, sur 155, 3¼ mi sw Blanco City, sd 1260 ft. Thomas Hicks et al's Specht & Wiedner 1, Thos. M. Fowler sur No. 27, 2 mi s Twin Sisters, sd 1635 ft (dropped).

CALDWELL COUNTY—Joe Bruner's Malone 1, A. Floyd sur, 2 lcns s Salt Flat, top Edwards lime 2788 ft, td 2790 ft, testing show oil. T. W. Cole's J. M. Pierce 1, S. Seal sur, n Dunlap 2, Solomon Seal sur, 2¼ mi ne Luling, sd 2503 ft. Rex Kendricks et al's Virgil Carter 1, Isaac Allen sur, 3 mi sw Lytton Spgs, sd. Meyer Exploration Co.'s Walker 1, Solomon Seal sur, 3 mi w and n of Luling, sd 160 ft. L. E. Trout's W. W. McCrory 1, John Neil sur, dk.

DUVAL COUNTY—John F. Camp's Weil 1, sec 570, 3½ mi sw Gov't Wells field, dk. Capps & Smith's Duval County Ranch Lands 1, Sec. 576, dk. Cole Pet. Co.'s Benavides 75, Blk 8, sur 19, Mariano Arispe Grant, Cole-Bruni pool, dr 3050 ft. Duval Oil Corp.'s Bishop 9, Sec. 135, Gov't Wells, lcn. Frank Gravis et al's Schallert 2, Blk. 10, Cain & Smith sur 55, Palangana Salt Dome, dr abt 1650 ft. Humble O&R Co.'s Paul White 3, sur 58, Gov't Wells field, dr 1695 ft. Hines

FOR QUICK SALE

Very complete string, latest type, Rotary tools with 125 HP 250 lb. WP boilers, 6" Steel Jack Posts, Draw Works, 27½" Rotary and large Pumps, high pressure connections and fittings. Only drilled 4000 foot well. Good as new. Located, Pampa, Texas. Priced right.

THE BRIDGEPORT MACHINE CO.,
Box 17
Wichita, Kansas

& Nassly's Duval Ranch Co. 1, Sec. 196, lcn. O. W. Killam's W. R. Peterson 1, Sec. 1, S. A. & M. C. Sur, dr 2165 ft. Seacord & Putnam's Johnson 1, sur 44, ¼ mi n Roseta, spud in. Suttle et al's Bennett 1, Sec. 33, J. Portevent sur, near Rosita, n Gov't Wells field, ru. Thomas & Tarver, Inc.'s Bishop Cattle Co. 7, Sec. 135, Gov't Wells field, lcn. R. A. Thompson A. Parr 1, A. Garcia sur, dr 3758 ft.

GOLIAD COUNTY — Benedum and Trees and Plymouth Oil Co.'s Parks 2, se cor B. S. & F. Sur No. 8, 500 ft s Parks 1, lcn. David E. Dunlap's A. T. Fromme 1, P. Dexter sur, lcn. Hoffman & Gooch's Fromme 1, (formerly Rheimenschneider) 10 mi n Goliad, Peter Dexter sur, to deepen from 2312 ft. L. Neal et al's Pettus 1, J. M. Pettus tract, Pedro Trevino sur, w Goliad, sd 4565 ft.

GONZALES COUNTY—Crowder Oil Co.'s Preston 1, W. W. Pace sur, spud in and sd. A. Edmiston's Mrs. J. Ward, D. McKay sur, ru. Johnson-Matlocks O&G Co.'s J. James 1, M. A. Williamson sur, no rept. Nassamer, Gorden & Waldrop's B. Botts 2, sec 6, blk 56, Gonzales sur, sd 950 ft.

GUADALUPE COUNTY—Harry Bruner's Jim Sherrill 2, Geo. Allen League, near Staples, sd 190 ft, to move rotary. Darst Oil Co.'s W. Hamilton 1, J. H. Williamson sur, ¼ mi e Tidal Seligman 1, dr 1750 ft. Humble O&R Co.'s S. E. Denman 4-C, 600 ft nw 3-C, Arrington sur, dr 276 ft. Luling O&G Co.'s J. D. Brown 1, C. Hall sur, near Kingsburg, top chalk 2072 ft, top Edwards — ft, td — ft. W. J. Walton's (Tidal Oil Co.) Bloch 1, Valentine Bennett sur, 3½ mi sw Seligman 1, dr 1200 ft.

HIDALGO COUNTY—B. H. Adam's (Barrett & Kanellos) J. D. Brock, blk 15, por 79, 15 mi nw Mission, dr 3950 ft. La Joya O&G Co.'s W. L. Hart 1, w part of county, sd 4500 ft, contract depth. Dayle L. Smith Oil Co.'s Daskman 3, dr 1375 ft. San Roman Oil Co.'s (W. A. Taylor) Loma 1, Share 15, td 2460 ft, dr water well.

JIM HOGG COUNTY—H. D. Conley et al's Holbein 1, blk 7, sur 7, Reuben Holbein Oil lease, sub of Share 3, Las Animas Grant, core sand 1805 ft, set csg. T. P. Morgan's Fee 1, Share 19, Palo Blanco Grant, dr 4220 ft.

JIM WELLS COUNTY—Mag. Pet. Co.'s Seelingson 1, Lot 5, blk 11, A. Ramirez sur, 15 mi s Ben Bolt, sand 4930-30 ft, try test, ds collapsed, wait on new ds.

KARNES COUNTY—Pickett et al's Lyons 1, prep to spud.

KENDALL COUNTY—Borgett et al's W. Hagg 1, w Avery sur, sd 1250 ft (dropped).

KERR COUNTY—George Ball's F. A. Karger 1, move on. Evans and Gant's Jeff Love 2, sec 1593, ½ mi se discovery, dr 5885 ft; Jeff Love 3, J. Martinez sur No. 1594, 600 ft e Love 1, lcn. Herbert & Halbert's J. D. Witt 1, W. H. Hamilton sur, sec 1923, dr abt 200 ft.

KLEBERG COUNTY — H. Carter's R. H. Simmons 1, sec 7, King sur No. 2, dr 2900 ft. Joiner et al's (Barbee & Hunter) J. D. Finnegan 1, el Pasidio sur, 7 mi s Kingsville, abn 4007 ft.

LIVE OAK COUNTY—Coastal Oil Finding Co.'s A. M. Handley 1, C. S. Cobb sur, 12 mi sw Beeville, dr 5200 ft. Coquat et al's (Phillips Pet. Co.) Sanger 2, 1280 ft nw No. 1, sand 2461-72 ft, dst 4 fourbles mud and oil, deepen 2474 ft, new dst 6 fourbles mud, oil and sw 8 min, to make another test.

MAVERICK COUNTY—I. N. Boicourt's Bandera School Land 2, sd 2284 ft (dropped). Texas Gas Utilities Co.'s Chittim 8, sec 129, blk 7, I&GN sur, Chittim field, sd 4875 ft (dropped).

McMULLEN COUNTY—Prince Pet. Co.'s A. Grohman 1, blk 61, Prince Ranch sur, lcn. Jacob, Buzzini & Pickett's Jacob 2, W. H. Jacob sur No. 8, 150 ft nw Jacob 1, set 100 ft surface csg, woc. V. G. Schimmel's F. A. Hale 2, 300 ft n No. 1, sur 63, Two Rivers Ranch sub, abn abt 1500 ft.

NUECES COUNTY—John F. Camp & Stanolind O&G Co.'s King 1, Sec. 23, Richard King Farm lots sub, 6 mi n Agua Dulce, dr 2525 ft. Gulf Coast Oil Co.'s Perkins-Lagasse 1, sec. 26, Shepherd Sub, Saxet field, dr 510 ft. Houston Oil Co.'s E. McGregor 1, Sur No. 311, Saxet field, sand 4259-65 ft, csg set 4254 ft, woc. James K. Kepley et al's C. D. Sevier 1, Por. 582, 583, 311, Speer and Driscoll lands, Saxet field, spud in. Rutherford Drlg. Co.'s J. Hunter 1, Saxet field, dk. Saxet Oil Co.'s Dunn 6, Saxet field, dr 6390 ft.

REFUGIO COUNTY — Blanco Creek Oil Corp.'s Dammann 1, blk 18, Bonnie View Ranch sub, 8 mi e and s Refugio field, sd 4685 ft. G C. Dixon's P. M. Peck 1, sec 24, Bonnie View Ranch, sd 100 ft. Humble O&R Co.'s M. V. O'Conner 2, John Keathing sur, near Victoria line, 933 ft n and 75 degrees w O'Conner 1, set 13⅜ csg 2314 ft, now dr 2369 ft, shale. E. M. Jones' Josephine Mitchell 1-B, Refugio sur, dr 7462 ft.

SAN PATRICIO COUNTY — Atlantic Oil Co.'s (Welder Oil Co.) Welder 3, 900 ft n No. 2, old gasser 3659-61 ft, to deepen. John F. Camp's N. R. Jackson 1, sec 50, G. H. Paul sur, 3 mi n of Edroy, dr 3265 ft. United Prod. Corp.'s Cage 3, White Point, originally abn 4012 ft, reinstate, to deepen.

STARR COUNTY—Bennett Oil Co.'s Seabury 1, Sec. 5, Porcion 76, ⅛ mi n Los Olmos field, sand 456-70 ft, could not complete, abn. Coastal O&G Co.'s Kelsey Bass 1, Los Olmos, dr 300 ft. Davenport et al's Fee (Wells) 1, C. O. Newman Sub, Sur 33, El Benadito Grant, td 1095 ft, attempt to set csg. H. H. Davis' A. K. Bass 3, Sec. 6, Por. 76, Los Olmos, top sand 468 ft, set csg, woc. Felder, Mitchell & Barnsly's A. K. Bass 1, Los Olmos, lcn. Heard & Heard's (Sioux Oil Co.) Goodrich 1, tract 5, Porcion 81, 1½ mi n Rio Grande City, sand 1358-70 ft, set csg, woc. Hooks and Weaver's Kelsey Bass 5, blk 2, sur 6, dr abt 100 ft. M. A. Landrum's A. K. Bass 1, sec 6, sub of Por. 75-76-77, Los Olmos sur, no rept; A. K. Bass 2, sec 6, Los Olmos sur, lcn. Los Olmos O&G Co.'s Kelsey Bass 11, sur 6, sub of Porcion 75-76-77, dr 385 ft. Quien Sabe O&G Co.'s H. K. Kusch 2, Por. 75, Tract 11, abn 253 ft; H. K. Kusch 1-B, Por. 76, Tract 7, nw cor blk 11, dk. Rio O&G Co.'s K. Bass 2,

Important Announcement
to
Oil and Gas Industry

The J. A. Campbell Company is now manufacturing and distributing the Daniel Orifice Fitting.

This fitting has been previewed by over a hundred gas measurement engineers and has been proclaimed a triumph in engineering development.

Plate can be changed and inspected in from one to three minutes and with perfect safety regardless of line pressure. One speed-wrench performs all operations.

Plate operating mechanism is so powerful that a thousand-pound pull is easily exerted by a turn of the speed-wrench. Fittings are built of the best material obtainable and designed with high factor of safety not alone for pressure, but for line strain.

Heaviest piece of top assembly on a 24" fitting for a safe working pressure of 500 pounds is 14 pounds.

Ask for Literature.

J. A. CAMPBELL CO.
NATURAL GAS ENGINEERS

Consulting — Designing — Constructing

P. O. BOX 669 Long Beach, Calif. PHONE 416-93

Manufacturers of Gasoline Plants
"Oil-Froth" Absorbers — Mist-D-Fiers — Volz Regulators

Spartan Steel Co.'s
New Cable Tool Hardfacing
Saves Drilling Expense
BOX 804 COMPTON, CALIFORNIA

HIRSCH, BROWN AND SUSMAN
Attorneys at Law
32nd Floor Gulf Building
Houston, Texas
Specializing in Oil Law and Land Law

Do you need photographs of your equipment in use in the field? We specialize in photographs of oil field equipment in the Gulf Coast territory.

Merchant-Thayer & Co.
415 Louisiana St. Preston 2526
HOUSTON, TEXAS
Successors to
CALVIN WHEAT COMMERCIAL STUDIO

PATENTS
JESSE R. STONE
and **LESTER B. CLARK**
Patents, Infringement Litigation, Trade Marks
Associated with
Andrews, Streetman, Logue & Mobley
2200 Gulf Bldg. Houston, Texas
Capitol 7245

PATENTS
Patents Obtained and Trade Marks and Copyrights Registered
HARDWAY & CATHEY
428-29-30 Bankers Mortgage Bldg.
Phone Fairfax 8232 Houston, Texas

William M. Barret, Inc.
Consulting Geophysicists
Specializing in Magnetic Surveys
Contracts accepted for domestic and foreign projects, using the most improved instrumental and interpretative technique.
GIDDENS-LANE BUILDING
SHREVEPORT, LOUISIANA

THE FORT WORTH LABORATORIES
Field Gas Testing. Analysis of oil field brines, gas minerals and oil.
Sell Thermometers, Hydrometers and Laboratory Glassware.
F. B. Porter, B. S., Ch. E., Pres.
R. H. Fash, B. S., Vice-President
828½ Monroe St., Ft. Worth, Tex.

HOTEL PENNSYLVANIA
39th & CHESTNUT ST. · PHILADELPHIA
ROOM-BATH $2.50
New — Fireproof — Convenient
Nearest Hotel to Penna. R.R. Terminal

TEXAS GULF COAST

AUSTIN COUNTY—C. O. Farrington et al's Nannie T. Jackson 1, Brookshire prospect, spd and set 60 ft surface csg. Great Southern Drilling Co.'s F. Schovajsa 1, 3 mi s Bleiberville, sd at 1900 ft. Grant et al's A. A. Chesley 1, Raccoon Bend Dist., ru. Gillis & Vogelpohl's Tranchman 1, J. C. Cumings Hacienda sur, ru.

BELL COUNTY—J. W. Riley et al's W. S. Chaffin 1, 5 mi sw Heidenheimer, sd at 430 ft.

BRAZORIA COUNTY — The Texas Co.'s Cave 2, Damon Mound, core 3728-35 ft no show. Layne Texas Co.'s Wisdom 9, Damon, dr gbo 1672 ft, set 12¾-inch cas at 425 ft. W. D. Southerland et al's C. W. Chapman 1, Lockridge, ru to dpn, old td was 1514 ft.

CHAMBERS COUNTY — Pure Oil Co.'s Mayes 14, Lost Lake, completed for 538 bbls at 2819 ft. Joe Bashara's Tarbutton 2, Barbers Hill, dr out cmt plg at 3410 ft after sticking scr at 3391 ft, td 3631 ft in oil sand. B. B. McDaniel's J. F. Wilburn 5, Barbers Hill, comp for 685 bbl at 4325 ft. The Texas Co.'s Wilburn 6 (wo) prep to set cas, cored sn and shale shwg oil at 4986-5000 ft; Wilburn 7, (wo) pumped 51 bbls in 16 hrs at 4422 ft; Wilburn 8, completed for 70 bbls at 4407 ft.

FALLS COUNTY—O. B. Perot's J. C. Gorman 1, I. Golinda sur, lcn 300 ft from n and 500 ft from w line of 65-ac tract in Blk 15. Joe E. Curton's G. London 1, P. Zarza sur, sd 160 ft. Ed. W. Bateman's J. Czakowski 2, ready to spud.

FORT BEND COUNTY — Naylor & De Costa's Naylor 1, 1½ mi n Thompson Station, sd at 140 ft. Cullen & West & Gulf Prod. Co.'s Lockwood 2-B, dk 600 ft w of B-1, Rabb Ridge; George 3, Rabb Ridge, oil sand 5130-42 ft, r to set; H. P. Lockwood 3, n offset to George 3, Rabb Ridge, ru. Gulf Prod. Co.'s T. R. Booth 1, Rabb Ridge, 4457 ft, dr. Jas. T. O'Hara's T. A. Brown 1, Pilant Lake, dr 1594 ft gbo.

GRIMES COUNTY—Stanolind O&G Co.'s Mary Sullivan 1, ne of Plantersville, Asa Yeaman's sur, td 500 ft, set surf. cas.

HARRIS COUNTY—Flannigan et al's Woodburn 1, Genoa Dist., lcn 200 ft out of nwc of August Whitlock sur. Moody-Pure Oil Co.'s Hermann Est. 1, Pierce Jct., dr sn rk 932 ft. Joe H. Burt et al's C. O. & G. Texaco Fee 1, (wo), Humble, temp abn at 2282 ft after showing for oil at 2125 ft.

HOUSTON COUNTY — Ramsland et al's Pennington 1, R. Harza Survey, 4 mi w Grapeland, sd 2290 ft. Irish Oil Co.'s Wooters 1, J. J. Ellis sur, sd at 650 ft. Morgan Oil Co.'s D. Austin 5, F. Johnson sur, dr 603 ft.

JASPER COUNTY—Hext Drlg. Co.'s Flournoy 1, sd at 4080 ft after cmtg 2200 ft of 6⅝ inch cas.

JEFFERSON COUNTY—Pittman & Elam's Broussard 1, 2 mi w Sabine, dr 2280 ft. Jack Schmidt's M. C. Todd 1, lcn 600 ft from n and 160 ft from w lines of 713 ac tract in Wm. Carr sur, Cheek dome. Jack Schultz (M. P. Brown or Ft. Worth Dev. Co.'s) O. M. Todd 1, Cheek dome Dist., dr 3107 ft gbo.

MATAGORDA COUNTY—Duval Texas Sulphur Co.'s Smith 3, abn at 1787 ft. United North & South Dev. Co.'s Stoddard 1, Buckeye Dist., oil sn at 7828 ft, r to set 6⅝ cas; McDonald 1, td 3698 ft, plugging back to 3581 ft. P. S. Griffith's L. Baer 1, S. Ingram sur, dr 450 ft. L. P. Smith's Hudson 2, Markham, dr gbo 3040 ft. Claud B. Hamill, Tr.'s, Northern Irrigation Co. 1, ne flank of Markham, ru.

MILAM COUNTY—Frank A. Yeager's L. Hoes 1, 2½ mi sw Rockdale, preparing to put on pump at 1680 ft after two showings at 1402 and 1441 ft.

MONTGOMERY COUNTY — Heep Oil Corp.'s R. L. Cartwright 1, Jno. A. Davis sur, dr below 4200 ft. No specific report available. Pevehouse Oil Co.'s Sealey 1, dr in hard, blue, sticky gbo at 3900 ft.

ORANGE COUNTY — Ala-Tex Oil Co.'s Reed 1, 2½ mi se Orange, dr sh 3991 ft. Crews Oil Co.'s Mansfield 1, sd at 2275 ft.

SAN AUGUSTINE COUNTY — Baker & Smith's Pickering Lbr. Co. 1, E. Quirk Hrs, partly ru and sd. Jones & Tennant's W. P. Davis 1, A. G. Hale Hrs., sd in sandy shale at 2820 ft.

SOUTH TEXAS

ATASCOSA COUNTY—American Central O&G Co.'s McConnell 2, Blk 138, Baker sur, dr 1681 ft.

BASTROP COUNTY — Birdwell et al's White 1, Nancy Roberts sur, 4 mi se Belton, sd 540 ft. Humble O&R Co. & Sun Oil Co.'s Powers et al 1-B, Blk 197, 4 mi ne Bastrop, dr 4039 ft. Marts & Beaven's Wm. Bahm 2, J. Standifer sur, abn 1604 ft; R. L. Carter, Geo. Glasscock sur, 3 mi e Elgin, spud in.

BEE COUNTY—Barnsdall Oil Co. & Coquat's L. Roberts 2, Jno. Pace sur, Pettus-Cosden, lcn. J. M. Davis et al's Geo. Ray 1, 1000 ft sw discovery, Jno. Williamson sur, Pettus (Damac) abn 4152 ft, (correct depth). Houston Oil Co.'s Portis 4, e offset Portis 3, A. Smalley sur, Pettus (Damac), abn 4410 ft (correct depth). Humble Oil & R. Co.'s Laura Thompson 1, Garrett Roche sur, sd 5310 ft. Humble O&R Co. & Hulburt et al's J. C. Wood 1, P. T. Irrigation Co. sur, 5 mi se Beeville, sd 5077 ft. Pettus O&G Co.'s Mauldin 1, Geo. A. Kerr sur, Pettus, ru. T. B. Slick Estate, Inc.'s, Geo. A. Ray 5, e offset Ray 3, G. A. Kerr sur, Pettus (Damac) sand 3886-91 ft, set 6⅝ inch csg 3885 ft, completed 120 bbls, increase to 300 bbls.

BEXAR COUNTY—Alamo Nat'l Gas Co.'s G. J. Gembler 3, A. Menchaca sur No. 51, Eckert, dr 1172 ft. Anderson, Ingersoll & Miller's Stenburg, 9 mi sw San Antonio, F. Rolen sur, no rept. S. W. Blount's S. A. Land & Dev. Co. 1, 1 mi e of Medina River on Palo Alto Dr, 12 mi s San Antonio, sd 650 ft. Chiquita Oil Co.'s E. H. Cooksey 3, J. W. Rialls sur, Cooksey, lcn. Eckert & Son's Louis Brehm 1, Eckert pool, lcn; Sandemer 9, Eckert pool, spud in; Sandemer 10, Eckert pool, lcn. Gatlin Oil Co.'s I. A. Beck 11, J. Montez sur, Eckert pool, dr 500 ft. Jones-Volz's F. Bonkowsky 6, dr 650 ft. Ewell Neill's J. M. Watson 1, Martinez sur, 10 mi s San Antonio, sd 2375 ft. Schneider, Rees et al's Claussen 1, ne San Antonio, S. J. & A. Sur No. 17, sd 1143 ft. W. R. Swearingen et al's J. E. Halbardier 8, Perez sur, Eckert pool, set csg 650 ft, woc. W. K. Oil & Gas Co.'s Strunk 5, Montez sur, Eckert pool, dk.

BLANCO COUNTY—Hardy Sitton's Standeford 1, sur 155, 3¼ mi sw Blanco City, sd 1260 ft. Thomas Hicks et al's Specht & Wiedner 1, Thos. M. Fowler sur No. 27, 2 mi s Twin Sisters, sd 1635 ft (dropped).

CALDWELL COUNTY—Joe Bruner's Malone 1, A. Floyd sur, 2 lcns s Salt Flat, top Edwards lime 2788 ft, td 2790 ft, testing show oil. T. W. Cole's J. M. Pierce 1, S. Seal sur, n Dunlap 2, Solomon Seal sur, 2¼ mi ne Luling, sd 2503 ft. Rex Kendricks et al's Virgil Carter 1, Isaac Allen sur, 3 mi sw Lytton Spgs, sd. Meyer Exploration Co.'s Walker 1, Solomon Seal sur, 3 mi w and n of Luling, sd 160 ft. L. E. Trout's W. W. McCrory 1, John Neil sur, dk.

DUVAL COUNTY—John F. Camp's Weil 1, sec 570, 3½ mi sw Gov't Wells field, dk. Capps & Smith's Duval County Ranch Lands 1, Sec. 576, dk. Cole Pet. Co.'s Benavides 75, Blk 8, sur 19, Mariano Arispe Grant, Cole-Bruni pool, dr 3050 ft. Duval Oil Corp.'s Bishop 9, Sec. 135, Gov't Wells, lcn. Frank Gravis et al's Schallert 2, Blk. 10, Cain & Smith sur 55, Palangana Salt Dome, dr abt 1650 ft. Humble O&R Co.'s Paul White 3, sur 58, Gov't Wells field, dr 1695 ft. Hines

FOR QUICK SALE

Very complete string, latest type, Rotary tools with 125 HP 250 lb. WP boilers, 6" Steel Jack Posts, Draw Works, 27½" Rotary and large Pumps, high pressure connections and fittings. Only drilled 4000 foot well. Good as new. Located, Pampa, Texas. Priced right.

THE BRIDGEPORT MACHINE CO.,
Box 17
Wichita, Kansas

& Nassly's Duval Ranch Co. 1, Sec. 196, lcn. O. W. Killam's W. R. Peterson 1, Sec. 1, S. A. & M. C. Sur, dr 2165 ft. Seacord & Putnam's Johnson 1, sur 44, ¾ mi n Roseta, spud in. Suttle et al's Bennett 1, Sec. 33, J. Portevent sur, near Rosita, n Gov't Wells field, ru. Thomas & Tarver, Inc.'s Bishop Cattle Co. 7, Sec. 135, Gov't Wells field, lcn. R. A. Thompson A. Parr 1, A. Garcia sur, dr 3758 ft.

GOLIAD COUNTY — Benedum and Trees and Plymouth Oil Co.'s Parks 2, se cor B. S. & F. Sur No. 8, 500 ft s Parks 1, lcn. David E. Dunlap's A. T. Fromme 1, P. Dexter sur, lcn. Hoffman & Gooch's Fromme 1, (formerly Rheimenschneider) 10 mi n Goliad, Peter Dexter sur, to deepen from 2312 ft. L. Neal et al's Pettus 1, J. M. Pettus tract, Pedro Trevino sur, w Goliad, sd 4565 ft.

GONZALES COUNTY—Crowder Oil Co.'s Preston 1, W. W. Pace sur, spud in and sd. A. Edmiston's Mrs. J. Ward, D. McKay sur, ru. Johnson-Matlocks O&G Co.'s J. James 1, M. A. Williamson sur, no rept. Nassamer, Gorden & Waldrop's B. Botts 2, sec 6, blk 56, Gonzales sur, sd 950 ft.

GUADALUPE COUNTY—Harry Bruner's Jim Sherrill 2, Geo. Allen League, near Staples, sd 190 ft, to move rotary. Darst Oil Co.'s W. Hamilton 1, J. H. Williamson sur, ¼ mi e Tidal Seligman 1, dr 1750 ft. Humble O&R Co.'s S. E. Denman 4-C, 600 ft nw 3-C, Arrington sur, dr 276 ft. Luling O&G Co.'s J. D. Brown 1, C. Hall sur, near Kingsburg, top chalk 2072 ft, top Edwards — ft, td — ft. W. J. Walton's (Tidal Oil Co.) Bloch 1, Valentine Bennett sur, 3½ mi sw Seligman 1, dr 1200 ft.

HIDALGO COUNTY—B. H. Adam's (Barrett & Kanellos) J. D. Brock, blk 15, por 79, 15 mi nw Mission, dr 3950 ft. La Joya O&G Co.'s W. L. Hart 1, w part of county, sd 4500 ft, contract depth. Dayle L. Smith Oil Co.'s Daskman 3, dr 1375 ft. San Roman Oil Co.'s (W. A. Taylor) Loma 1, Share 15, td 2460 ft, dr water well.

JIM HOGG COUNTY—H. D. Conley et al's Holbein 1, blk 7, sur 7, Reuben Holbein Oil lease, sub of Share 3, Las Animas Grant, core sand 1805 ft, set csg. T. P. Morgan's Fee 1, Share 19, Palo Blanco Grant, dr 4220 ft.

JIM WELLS COUNTY—Mag. Pet. Co.'s Seelingson 1, Lot 5, blk 11, A. Ramirez sur, 15 mi s Ben Bolt, sand 4930-30 ft, try test, ds collapsed, wait on new ds.

KARNES COUNTY—Pickett et al's Lyons 1, prep to spud.

KENDALL COUNTY—Borgett et al's W. Hagg 1, w Avery sur, sd 1250 ft (dropped).

KERR COUNTY—George Ball's F. A. Karger 1, move on. Evans and Gant's Jeff Love 2, sec 1593, ½ mi se discovery, dr 5885 ft; Jeff Love 3, J. Martinez sur No. 1594, 600 ft e Love 1, lcn. Herbert & Halbert's J. D. Witt 1, W. H. Hamilton sur, sec 1923, dr abt 200 ft.

KLEBERG COUNTY — H. Carter's R. H. Simmons 1, sec 7, King sur No. 2, dr 2900 ft. Joiner et al's (Barbee & Hunter) J. D. Finnegan 1, el Pasidio sur, 7 mi s Kingsville, abn 4007 ft.

LIVE OAK COUNTY—Coastal Oil Finding Co.'s A. M. Handley 1, C. S. Cobb sur, 12 mi sw Beeville, dr 5200 ft. Coquat et al's (Phillips Pet. Co.) Sanger 2, 1280 ft nw No. 1, sand 2461-72 ft, dst 4 fourbles mud and oil, deepen 2474 ft, new dst 6 fourbles mud, oil and sw 8 min, to make another test.

MAVERICK COUNTY—I. N. Boicourt's Bandera School Land 2, sd 2284 ft (dropped). Texas Gas Utilities Co.'s Chittim 8, sec 129, blk 7, I&GN sur, Chittim field, sd 4875 ft (dropped).

McMULLEN COUNTY—Prince Pet. Co.'s A. Grohman 1, blk 61, Prince Ranch sur, lcn. Jacob, Buzzini & Pickett's Jacob 2, W. H. Jacob sur No. 8, 150 ft nw Jacob 1, set 100 ft surface csg, woc. V. G. Schimmel's F. A. Hale 2, 300 ft n No. 1, sur 63, Two Rivers Ranch sub, abn abt 1500 ft.

NUECES COUNTY—John F. Camp & Stanolind O&G Co.'s King 1, Sec. 23, Richard King Farm lots sub, 6 mi n Agua Dulce, dr 2525 ft. Gulf Coast Oil Co.'s Perkins-Lagasse 1, sec. 26, Shepherd Sub, Saxet field, dr 510 ft. Houston Oil Co.'s E. McGregor 1, Sur No. 311, Saxet field, sand 4259-65 ft, csg set 4254 ft, woc. James K. Kepley et al's C. D. Sevier 1, Por. 582, 583, 311, Speer and Driscoll lands, Saxet field, spud in. Rutherford Drlg. Co.'s J. Hunter 1, Saxet field, dk. Saxet Oil Co.'s Dunn 6, Saxet field, dr 6390 ft.

REFUGIO COUNTY — Blanco Creek Oil Corp.'s Dammann 1, blk 18, Bonnie View Ranch sub, 8 mi e and s Refugio field, sd 4685 ft. G C. Dixon's P. M. Peck 1, sec 24, Bonnie View Ranch, sd 100 ft. Humble O&R Co.'s M. V. O'Conner 2, John Keathing sur, near Victoria line, 933 ft n and 75 degrees w O'Conner 1, set 13⅜ csg 2314 ft, now dr 2369 ft, shale. E. M. Jones' Josephine Mitchell 1-B, Refugio sur, dr 7462 ft.

SAN PATRICIO COUNTY — Atlantic Oil Co.'s (Welder Oil Co.) Welder 3, 900 ft n No. 2, old gasser 3659-61 ft, to deepen. John F. Camp's N. R. Jackson 1, sec 50, G. H. Paul sur, 3 mi n of Edroy, dr 3265 ft. United Prod. Corp.'s Cage 3, White Point, originally abn 4012 ft, reinstate, to deepen.

STARR COUNTY—Bennett Oil Co.'s Seabury 1, Sec. 5, Porcion 76, ½ mi n Los Olmos field, sand 456-70 ft, could not complete, abn. Coastal O&G Co.'s Kelsey Bass 1, Los Olmos, dr 300 ft. Davenport et al's Fee (Wells) 1, C. O. Newman Sub, Sur 33, El Benadito Grant, td 1095 ft, attempt to set csg. H. H. Davis' A. K. Bass 3, Sec. 6, Por. 76, Los Olmos, top sand 468 ft, set csg, woc. Felder, Mitchell & Barnsly's A. K. Bass 1, Los Olmos, lcn. Heard & Heard's (Sioux Oil Co.) Goodrich 1, tract 5, Porcion 81, 1½ mi n Rio Grande City, sand 1358-70 ft, set csg, woc. Hooks and Weaver's Kelsey Bass 5, blk 2, sur 6, dr abt 100 ft. M. A. Landrum's A. K. Bass 1, sec 6, sub of Por. 75-76-77, Los Olmos sur, no rept; A. K. Bass 2, sec 6, Los Olmos sur, lcn. Los Olmos O&G Co.'s Kelsey Bass 11, sur 6, sub of Porcion 75-76-77, dr 385 ft. Quien Sabe O&G Co.'s H. K. Kusch 2, Por. 75, Tract 11, abn 253 ft; H. K. Kusch 1-B, Por. 76, Tract 7, nw cor blk 11, dk. Rio O&G Co.'s K. Bass 2,

Important Announcement
to
Oil and Gas Industry

The J. A. Campbell Company is now manufacturing and distributing the Daniel Orifice Fitting.

This fitting has been previewed by over a hundred gas measurement engineers and has been proclaimed a triumph in engineering development.

Plate can be changed and inspected in from one to three minutes and with perfect safety regardless of line pressure. One speed-wrench performs all operations.

Plate operating mechanism is so powerful that a thousand-pound pull is easily exerted by a turn of the speed-wrench. Fittings are built of the best material obtainable and designed with high factor of safety not alone for pressure, but for line strain.

Heaviest piece of top assembly on a 24" fitting for a safe working pressure of 500 pounds is 14 pounds.

Ask for Literature.

J. A. CAMPBELL CO.
NATURAL GAS ENGINEERS

Consulting — Designing — Constructing

P. O. BOX 669 Long Beach, Calif. PHONE 416-93

Manufacturers of Gasoline Plants
"Oil-Froth" Absorbers — Mist-D-Fiers — Volz Regulators

Sur 6, Los Olmos, dr 420 ft. San Marcos Dev. Co.'s Ivey 7, Share 8, Por. 75-76-77, no rept; Ivey 8, Share 8, Por. 75-76-77, no rept; Ivey 9, Share 8, Por. 75-76-77, lcn. Stryalls Oil Corp.'s M. E. Salinas 1, Por. 80, Share 38-C, dr 1385 ft. R. B. Stulles' Guerra 1, Porcion 110, no rept. J. A. Tarver A. K. Bass 1, Sec. 77, B 7, ¾ mi due s Los Olmos pool, dry and abn 556 ft; A. K. Bass 3, S 76, B 7, Carmargo sur, ¾ mi s field, dk. Jess Williams Welsh 1, Pedernal Grant, sd 552 ft.

TRAVIS COUNTY—Bass & Fuch's R. A. Chadwich 1, A. C. Caldwell sur, dk. Fritz Fuch's W. M. Schaeffer 1, A. C. Caldwell sur, sd 520 ft; C. R. Franklin's J. Wilson 1, A. Alexander sur, sd 565 ft.

VICTORIA COUNTY—C. B. Bunte & C. R. & M. Drlg. Co.'s Keeran 2, Martin de Leon Grant, Keeran field, w of No. 1, ru. Houston Oil Co.'s McFadden 1, 2/3 mi nw Konrad 1, ne Victoria, ru. T. B. Slick Estate's McFadden 2, 3500 ft nw 1, J. Varin sur, set 1100 ft surface csg, woc. The Texas Co.'s McFadden 4, J. M. Rine sur, 2800 ft n of No. 3, dr 1000 ft.

WEBB COUNTY—French Oil Corp.'s Benavides 7-A, sur 659, West Cole field, lcn. O. W. Killam's Bruni (Ranchito) 4, J. V. Borrego Grant, 1070-75, dst, show gas. Nordan & Morris' Gates 1, 10 mi sw Gov't Wells field, move on. Power & Detterheim's Cowan & Gross 1, sur 1606, sd 504 ft. Rosenberg, Johnson & Peacock's Laurel 1, Blk 10, sur 27, Carolina Texas pool, dr 2320 ft. W. R. Shanklin's Ellison 1, blk 2, sur 466, dr 1915 ft.

WILLIAMSON COUNTY — Burns et al's Wilder 1, R. Owens sur, sd 1496 ft. Hayes & Gee's E. G. Johnson 1, B. C. Low sur, s Georgetown, sd 1595 ft. McLean's et al's Miller 1-A, Manlove sur, sw No. 1, spud in and sd. McNeil et al's Galler 1, 1 mi nw Thrall, dr. R. S. Wilson's J. S. Speckels 1, J. Jordan sur, 1 mi n Coupland, sd 875 ft.

ZAPATA COUNTY—Geo. Ball's Gutierrez 1, sd 2065 ft, to deepen. Ballard & Mercer's Flores 1, Blk 27, Marks sub, Porcion 37, dr 2024 ft. E. R. Black & Paul S. Williams' Alworth 1, Comitas Grant, lcn. Borgan & Belcher's M. Garza Estate 1, Blk. 62, C. A. Douglas sub, Comitas Grant, abn 2010 ft. J. M. Blair & Son's Montemayor 1, blk 1, sur 63, Escobas field, spud in. Joe Cullinan's Gutierrez 1, Charco de Indio Grant, lcn. Daniel & Hill's Montemayor 2, sur 64, blk 7, dr 1485 ft. Eddington & Niles' Trevino 1, Share 34, lcn. F. H. Etheridge's Winch & Henne 3, blk 10, sur 286, spud in; Winch & Henne 4, blk 10, sur 286, lcn. O. W. Killam's Medina 5, Share 34, Fansler Partition, Comitas Grant, Escobas field, lcn. K. M. Oil Co.'s I. Cuellar 2, Sec. 13, blk 7, 2 mi e Escobas field, make lcn. M. V. Lee's Trevino, sur 66, blk 7, Escobas, lcn. D. M. Shafer's M. Garza Estate 1, C. A. Douglas sub, Zorro Ranch, Las Comitas Grant, ru. S. R. C. Oil Co.'s Montemayor 6-D, blk 10, sur 64, s offset Daniels' Hill well, sd 1479 ft (dropped). Trevino Oil Co.'s M. Garza 1, blk 36, Comitas sur, dr 1351 ft. Winch & Billings' Jose Bustamate 10, Share 35, Fansler Partition, Comitas Grant, Escobas field, td 1478 ft, completed 75 bbls.

ZAVALLA COUNTY — Carpenter et al's Wolf 1, Amos, Beaty and Moulton Block A Survey, sand 731-57 ft, 3 ft break of rock, show gas, set csg 726 ft, cement gave way, recement woc.

EAST TEXAS

HARRISON COUNTY — Ryan Cons. Pet. Corp.'s J. M. Furrh 1, T. J. Copelain sur, rig. Lloyd Oil Corp.'s Timmons 1, Jno. Findley sur, 10-inch 240 ft, sd 4195 ft lime and anhydrites. Gauchee et al's T. W. Davidson 1, Richard Starr sur, dk.

MARION COUNTY—Baunauch Dev. Co.'s Miller 1, Henry Fulgram sur, top Saratoga 2260 ft, top PG 2480 ft, sd 3280 ft lime.

PANOLA COUNTY—United Prod. Corp.'s Werner 12, B. C. Jordan sur, 15½ cas 150 ft, cemtd 10¾ cas 1200 ft. Daisy O&G Co.'s Rucks Hrs. 1, Jno. Palmer sur, sd 3264 ft, shale. Moses & Wallace's C. L. Daniels 1, Isabel Hanks sur, sd 650 ft. Hoffer et al's Cameron 1, W. A. Lagrone sur, dk. Davidson et al's Latham 1, Wm. Riche sur, 10-inch 260 ft, base chalk 2095 ft, sd 2334 ft. Nelson et al's Williams 1, Jas. Hanks sur, 12½ cas 400 ft, sd 3055 ft, shale and lime. Stamps et al's Chadwick 1, Wm. Scantleberry sur, rig.

SABINE COUNTY — Rogers & Johnson's Polley 1, Jno. Horton sur, sd 250 ft.

SHELBY COUNTY—E. L. Chapman's Holt 2, Matthew Moore sur, coring 3180 ft, (second hole). McRobie et al's Windham 1, Wm. Leach sur, (296-ac tract), sd while trying pull parted cas, td 3393 ft. Mauling et al's Frost Lbr. Ind. 1, A. B. Fountain sur, co 3246 ft. H. H. Gracey's J. A. Morrison 1, Wm. English sur, sd 2600 ft. C. R. Tautenhahn's J. C. Bogard 1, Thos. Baker sur, sd 20 ft partly rigged up. Ridgeway et al's Polley 1, Domingo Gonzales sur, 10-inch 112 ft, fsh ds, td 822 ft. K. H. Francis' Jno, Mims 1, Mary Smith sur, AC 3330-77 ft, fsh ds, td 3382 ft. Oil News Pub. Co.'s (Simpson & Lewis) Pickering 1, G. H. Patterson sur, (361-ac tract), wosr, td 1508 ft chalk. Ray & Dunbar's Hayden 1, D. F. T. Yordt sur, (153-ac), rig. Fuller & O'Brien Bros.' Frost-Johnson 1, Aaron Castleberry sur, dk pat. Western World Pub. Co.'s Foster & Billingsley 1, J. Nowlin sur, top chalk 2000 ft, dr 2460 ft.

FLORIDA

DADE COUNTY—East Coast Oil & Nat. Gas Co.'s Warick 1, 12-55s-40e, sd 5305 ft. Miami, Fla., Oil Co.'s Chevalier Corp. 1, nw nw 19-54s-35e, trying re-land 6-inch, td 4600 ft.

LEVY COUNTY — Suwanee Pet. Corp.'s Sholtz 1, nw se 9-15s-13e, elev 34 ft, sd 4010 ft.

MANATEE COUNTY——Surprise Oil Co.'s Palmetto 1, 13-34s-17e, sd 852 ft.

PINELLAS COUNTY—Pioneer Oil & Mining Co.'s Yerxa et al 1, 2-29s-16e, co, td 1151 ft.

WALTON COUNTY—Calumet Co.'s Walton L. & T. Co. 1, se ne 7-1n-17w, dk pat. Oil City Corp.'s Walton L&T Co. 1, ne nw 12-1n-19w, sd wo new drilling line, td 4460 ft.

ALABAMA

MADISON COUNTY — Tennessee Valley O&G Co.'s Fee 4, 1-4s-2e, no report.

SUMTER COUNTY (Livingston Dist.)—Forked Lightning O&G Co.'s Nixon 1, 30-20-2w, dk.

WASHINGTON COUNTY—Hobson et al's Hobson Bros. 1, 9-8-2w, ta 1450 ft. Oscar Brown's U. S. Land & Cotton 2, 23-3-2w, ta 700 ft.

TENNESSEE

CHESTER COUNTY—Gilmore et al's Scott 1, 10-inch 522 ft, dr 904 ft (cable tools).

DECATUR COUNTY—Chester County O&G Co.'s Montgomery 1, arr res, td 2511 ft.

Society Issues Book Covering Geology of Southern Alberta

Fourteen papers by members of the Alberta Society of Petroleum Geologists and the American Association of Petroleum Geologists which were previously published in the Bulletin of the American Association of Petroleum Geologists, Tulsa, Oklahoma, have been reprinted by that association in a neat, 166-page cloth bound book under the title, "Stratigraphy of Plains of Southern Alberta." The Symposium had appeared in the Bulletin in Volume 15, Number 10, October, 1931.

It is explained in the foreword to the book that knowledge of the stratigraphy of the plains of southern Alberta has been considerably expanded recently through detailed measurements of surface sections and studies of deep well samples, and that that knowledge has been brought together in the symposium in an attempt to better define and describe the geologic formations, both surface and subsurface, and to clarify their nomenclature and correlation. An accompanying geologic map likewise presents valuable information.

The symposium is presented as a tribute and memorial to the late Donaldson Bogart Dowling, in memory and appreciation of his outstanding contributions to the geology of southern Alberta.

Papers embodied in the book are the following: "Stratigraphic Correlation and Nomenclature in Plains of Southern Alberta," by J. S. Irwin; "Paleozoic of Southern Plains of Alberta," by P. D. Moore; "Ellis (Upper Jurassic) Section at East Butte, Sweet-Grass Hills, Montana," by J. O. G. Sanderson; "Stratigraphy of Red Coulee Field," by W. S. Yarwood; "Stratigraphy of Colorado Shale in Southern Plains of Alberta," by J. G. Spratt; "Stratigraphy of Foremost, Pakowki, and Milk River Formations of Southern Plains of Alberta," by S. E. Slipper and H. M. Hunter; "Subsurface Study of Pale Beds and Foremost Formation in Lethbridge-Books Area of Southern Alberta," by Delmer L. Powers; "Sediments of Montana Age in Milk River Ridge Region, Alberta," by B. F. Hake and Carl C. Addison; "Bearpaw Shale and Contiguous Formations in Lethbridge Area, Alberta," by Theodore A. Link and A. J. Childerhose; "Sections of Bearpaw Shale from Keho Lake to Bassano, Southern Alberta," by Clare M. Clark; "Fox Hills Formation in Southern Alberta," by J. O. G. Sanderson; "Stratigraphy of Spring Coulee Well," by W. S. Yarwood; "Stratigraphy of Spring Coulee Well. Supplementary Paper," by W. P. Mellen and F. W. Rohwer; and "Invertebrate Paleontology of Southern Plains of Alberta," by P. S. Warren.

This new cloth-covered book contains 60 illustrations, has dimensions nine by six inches, and sells for $3 per copy.

New Equipment for the Field

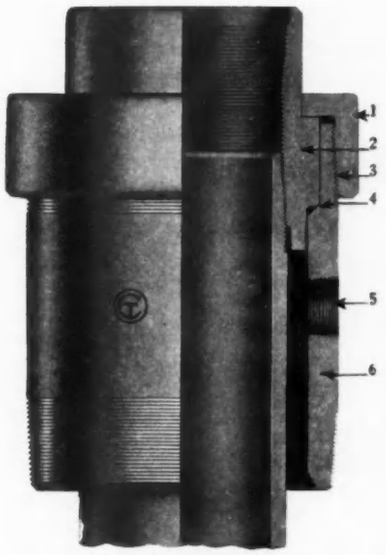
MACHINERY - TOOLS CATALOGS - BOOKS

▼ ▼ ▼

1. Safety Braden Head

OIL CENTER TOOL COMPANY

Oil Center Tool Company of Houston is marketing the O-C-T Type B casing or braden head which represents a new departure in equipment of this type. It is designed to seal off with a steel-to-steel ground joint, to provide more safety in case of fire. The design allows for tying down the casing string, which is run through the head. Should the string part after being set, the casing above the break will not be blown out of the hole.



O.C.T. Safety Braden Head, Type B

The Type B head permits running casing through a blowout preventer, which may be screwed on the top thread of the body.

The accompanying figure shows the tie-down nut, No. 1; the casing hanger-collar, No. 2; A. P. I. casing thread for blowout preventer, No. 3; steel-to-steel seal-off, No. 4; casing vent, No. 5; and main body, No. 6.

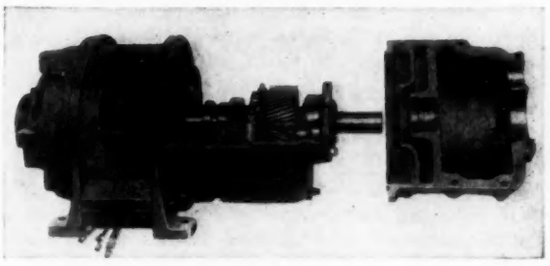
2. Electric Power Unit

WESTINGHOUSE ELECTRIC & MANUFACTURING CO.

Westinghouse Electric & Manufacturing Company, Nuttall Works, Pittsburgh, announces a simple, compact unit for powering various motor-driven equipment which operates at reduced motor speeds.

These new drives are known as gearmotors, consist of speed reducers combined with motors forming self-contained units only a few inches longer overall than motors alone. Prominent advantages afforded by this combination of power and speed reducing equipment include economy in space requirements, easy and simplified installation, reduced number of drive parts, high efficiency of operation, and assured low maintenance requirements.

Each unit includes a Westinghouse type CS general purpose induction motor and a double reduction, non-planetary type



New Westinghouse-Nuttall Gearmotor Unit Drive with speeds of 69 to 1550 r.p.m.

helical gear speed reducer built onto the one-piece motor frame forming a sturdy and rigid assembly which is supported entirely by the motor feet.

An outstanding improvement in motor construction incorporated in these unit drives is the pre-wound primary core which is separable from the stator frame. This feature permits quick change of motor speed, voltage, and phase. practically indestructible rotor, dual treated windings, directed ventilation, and ball bearings are other motor construction features of these drives.

The simple speed-reducing mechanism is fully enclosed in a two-piece housing which is rigidly bolted to the motor frame.

The desired reduction of motor speed is obtained smoothly and quietly by helical gears and pinions, the teeth of which are cut to a high degree of accuracy by the hobbing process. All gear and pinion shafts are supported on roller bearings. By a simple splash system of lubrication, all moving parts of the speed reducing mechanism and one motor bearing receive a copious supply of oil continuously during operation. The lower section of the housing forms a reservoir for the lubricant. The other motor bearing is packed with grease. Seals on all shafts prevent oil escapement into the motor windings and to the outside of the unit at shaft apertures. Adjoining faces of the two sections of the housings are machined and bolted together, forming an oil-tight, dirt-proof enclosure. Convenient plugs for checking the oil level, refilling or draining the oil supply are provided.

Ventilating air for the motor is taken in through an opening in the lower section of speed reducer housing and properly directed by a curved shield integral with the interior of the housing.

Accessibility to Gearmotor parts is readily obtained by re-

— — — — — — ***MAIL COUPON*** — — — — — —

THE OIL WEEKLY,
Houston, Texas, U. S. A.

Please see that I am supplied, without obligation, additional information on New Equipment Items Nos._____ described in the March 25, 1932, issue of THE OIL WEEKLY.

Name .....

Company .....

Address .....

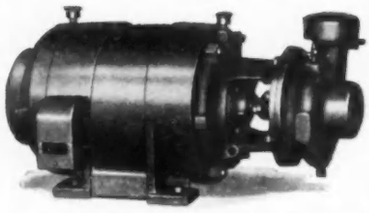
moving the top section of the housing. This can be done without removing the drive from its mounting or uncoupling it from the driven equipment. By removing the motor bearing bracket permits pulling out the complete rotor assembly including oil seal, bearing and pinion on the shaft.

Gearmotors are built in sizes of ½ to 15 horsepower with a wide selection of output ranging from 69 to 1550 r.p.m. A change in the output of any unit speed can readily be made at a small percentage of its initial cost.

3. Pumping Unit

ALLIS-CHALMERS MANUFACTURING COMPANY

Allis-Chalmers Manufacturing Company, Milwaukee, Wisconsin, has recently introduced a compact pumping unit, Type SSU pump to serve a varied number of jobs in fluid handling. The pump and motor are built as a single unit to eliminate possibility of misalignment and to make installation simply an installation job. The unit is small, light in weight, and is easily transported. Any rigid support is sufficient for a foundation



Allis-Chalmers Type SSU Pump

It is announced as suitable for pumping either water or oil, as at loading racks, treating plants, cooling towers, for circulating water, pickup pumps, for oil transfer or water supply, for drainage or at salt water pits, or virtually any pumping job where the capacity is from 30 to 300 gallons per minute, with a maximum head from 90 to 110 feet; (40 to 400 barrels per hour with 40 to 45 pounds pressure. It is furnished in either 1750 r.p.m. or 3500 r.p.m. units.

Motor leads are arranged so that they can be interchanged for either 220 or 440 volt. Either standard open type or totally enclosed type or totally enclosed fan-cooled motors can be furnished. For special applications where explosive gases are present such as in gasoline plants, special explosion-proof motors are available.

When used for handling untreated oil from storage, some sort of simple strainer for the suction line is recommended to prevent trash and foreign particles from being sucked up into the impeller openings.

There are only two bearings, both of which are totally enclosed and grease packed. There is one continuous heavy shaft for both the pump runner and motor rotor.

4. Rod Wrench Rack

JOHN E. WHITTAKER

Whittaker Rod Wrench

John E. Whittaker, P. O. Box 40, Saint Louis, Oklahoma, announces invention of a rod wrench rack, patent pending, which attaches to a two- or 2½-inch upset tubing coupling and to a two- or 2½-inch vertical lead line.

The rack is quickly attached or detached by means of a forked clamp and held firmly in horizontal position by a tapered clamp which is tapped in with a hammer. Clamps are interchangeable with the rack and can be unscrewed by loosening a jam nut.

Mineral-Geological Map of Coast and Adjacent Areas Prepared

Houston.—A valuable and interesting map has been prepared and placed on the market by the Gulf Coast Engineering Company, Houston, showing oil and gas fields and structures throughout a wide belt extending through Southern Arkansas, Northern Louisiana, through Eastern Texas, and down the Texas coast, between the Balcones fault and the Gulf of Mexico, into Northern Mexico.

The map is colored to show oil, gas, and sulphur production with separate symbols; and it also shows considerable geology, including contacts of surface formations, faults, escarpments, and so forth. In addition the map shows all oil and gas pipe lines. Railroads and towns are also shown.

Size of the map is nine feet by three, and it is upon a scale of one inch equals eight miles. Copies may be secured from the Gulf Coast Engineering Company, Larendon Building, Houston, Texas, at $35 per copy on linen or $25 per copy on paper.

BMW PRODUCTS for pumping wells
The KEY to LOWER LIFTING COSTS
CORRECTLY DESIGNED .. ECONOMICALLY PRODUCED
REASONABLY PRICED

The MIDGET LINER BARREL Deserves a TRIAL

It is ideal in Small Wells, especially when pumping action is interfered with by Gas or Vacuum. Barrel is inserted in old standard Working Barrel. Perforated top crown is tapered to fit the counter-bored end of Working Barrel Tube. Fluid is packed off and Liner held in place by 2-Cup Lower Valve.

Will save many tubing jobs. Ask your supply store.

BRADFORD MOTOR WORKS INC.
OIL WELL SUPPLIES
BRADFORD, PA. TULSA, OKLA.
EXPORT OFFICE—30 CHURCH ST.—NEW YORK CITY

Catalogs • Bulletins

High Pressure Fittings

Oil Center Tool Company, 924 Adele Street, Houston, announces Catalog No. 5, covering OCT oil field specialties and forged steel high pressure fittings and giving prices on individual products. A discount sheet, effective March 15, is included. The story of the manufacture and performance of OCT products is told in pictures, with field installations shown and described, following illustrations of how the equipment is made. Following this introduction each product is taken up separately with an illustration, detailed description, and price list covering all sizes. The catalog is standard size, and is made up in loose-leaf form for convenient filing, adding to or removing pages on products as newer pages may be furnished in the future.

Line Pipe and Casing

Republic Steel Corporation, Youngstown, Ohio, has issued an elaborate 36-page catalog, printed in three colors, which describes the painstaking care which goes into the progressive processes of making Republic electric weld line pipe and casing. Tables showing weight, diameter, wall thickness and mill test standards as well as information on threads and couplings are given. An authentic table of safe working pressures with various safety factors is also contained. Certain sections of this catalog are virtually pictorial reviews of the company's manufacturing process, action photographs having been used to help present the story. Republic Steel Corporation will furnish a copy of this catalog to oil company representatives or individual operators making a request for it on their business letterheads.

Squirrel Cage Motors

Wagner Electric Company, 6400 Plymouth Avenue, St. Louis, has issued a 22-page bulletin on squirrel-cage motors, Bulletin 174. This bulletin describes the seven types of squirrel-cage motors, gives application tables, speed-torque curves, and complete construction details. It is in loose-leaf form to permit keeping it up to date at all times. The bulletin is profusely illustrated with reproductions of actual views of these motors in use. The pointer system of descriptive underlines for illustrations is used to facilitate the study of the motors and their parts. Information on each of the seven types of motors described is segregated to the point of each motor description being a separate section.

— — — — — — *MAIL COUPON* — — — — — —

Company . . . . . .

Address . . . . . .

Please send me, without obligation, free booklet described in THE OIL WEEKLY, *March* 25, 1932.

Name . . . . . .

Address . . . . . .

McEVOY
Universal Hookup
for
EAST TEXAS
at an
astonishingly
LOW PRICE

100% RE-USE

IMPORTANT: No torches. No misfits. No part of this hook-up need be junked after well has ceased flowing. HERE'S WHY: All parts can be taken apart, cleaned, and stored with full knowledge that they *can be put together again and made to fit perfectly because of adjustable ell.* The adjustable ell compensates for three inches of variation in pull-up. It therefore has sufficient adjustment to allow for standard cut nipples and fittings. THIS MANIFOLD PERMITS THE USE OF ANY OF THE WELL KNOWN McEVOY TYPES OF CASING HEAD.

Note in the above illustration the essential parts of this hook-up manufactured by J. H. McEvoy & Company: Standard McEvoy Casing Heads; a new type of Adjustable Choke which has a full opening when withdrawn; *an Adjustable Universal Ell which allows for adjustment of the length of the tree for ease of installation.* It obviates strain due to poor fittings and alignment by the men in the field.

ANY MAKE OF VALVES
Fits this Manifold

With the standard McEvoy Type C Universal Casing Head, it makes use of the standard Slips in the head while tubing is being run. Also possible to use McEvoy Universal Safety Pressure Head in case of threatened danger. Allows for safe suspension by means of the slips. McEvoy equipment is tested to a cold water pressure of 2,000 lbs. per sq. inch. With this type of hook-up, it is possible to either wash the well in, or swab it in.

Write for complete information on this economical hook-up.

•

J. H. McEvoy & Co.

Established 1906

TEXAS AVE. at MILBY HOUSTON, TEXAS

NEWS *from the* *Industry's* EQUIPMENT MAKERS

Keeping in touch with developments with Manufacturers and Supply Dealers

St. Louis Firm Makes Items for Oil Equipment

Atlas Tool & Manufacturing Company, 6300 Manchester, St. Louis, Missouri, announces that it now specializes in making jigs and ties for oil field equipment. This company's engineers and metallurgists are familiar with oil country equipment problems and are now working on several specialty items for the oil industry. They have already done considerable of the tooling for the Kennedye Oil Field Devices Company.

Germany Representing Inferno in East Texas

Inferno Company of Shreveport, Louisiana, manufacturer of gas and oil burners, safety valves and firing controls, announces appointment of B. M. Germany as East Texas sales representative, headquarters at 208 East Whaley Street, Longview, selling through supply houses.

Neilan Company Opens Sales Office in Tulsa

The Neilan Company, Ltd., (Division of Mason Company) and Mason Regulator Company announce the establishment of an office at 409 East Archer Street, Tulsa. Gordon Thomason will be in charge of this branch office. Thomason is an experienced control engineer. The district office in which he is in charge will handle the sale of both Neilan and Mason instruments and regulators for the control of pressure, temperature and flow.

Shop crew of Oil Center Tool Company at Houston, Texas.

Sarco Company Opens Office in England

Sarco Company, Inc., of New York, has incorporated a new company, the Spirax Manufacturing Company, Ltd., in London for the manufacture of Sarco steam traps and other specialties for the British market.

Worthington Official Dies While Lecturing

Worthington Pump & Machinery Corporation announces the sudden death of John T. Clancy, one of its executives, March 9, of heart attack while he was lecturing at the Engineers' Club, New York City, before a meeting of the American Society of Mechanical Engineers. He had been with Worthington since 1919, and in 1923 became assistant manager of oil and gas engine sales at the Buffalo plant. In July, 1931, his headquarters were moved to the Harrison, New Jersey, plant.

Kennedy Valve Moves to Larger Chicago Quarters

Kennedy Valve Manufacturing Company announces the removal of its Chicago branch office and warehouse to larger quarters at 1306-1312 South Canal Street. The new office is located in the Soo Terminal, providing convenience for prompt deliveries throughout the territory served by this office.

Roller Bearing Company Promotes Gainsborg

E. C. Gainsborg, who has had the direction of industrial sales for Roller Bearing Company of America, Trenton, New Jersey, for the past year, has been made sales manager of the company. His experience in the bearing business dates back more than 10 years, when he was first associated with SKF Industries in New York City. For three years he was in charge of that company's steel mill division and later was district manager of their Pittsburgh office.

Larkin Packer Makes Strength Demonstration

J. J. Larkin, president, Larkin Packer Company of St. Louis, and Charles F. Dougherty, Mid-Continent district manager, spent the past week in South Texas, during which time they made strength demonstration tests in a Houston shop for a number of Gulf Coast engineers on the new fabric Bakelite float and guide shoes. Mr. Larkin left Houston March 18 for Los Angeles, where he attended the California Oil Exposition.

— — — — — — — — — CUT OUT AND MAIL — — — — — — — — —

The OIL WEEKLY

P. O. BOX 1307 HOUSTON, TEXAS

Enter my name for one year's subscription to The OIL WEEKLY, for which you will find enclosed check for $1, as payment in full.

Name .....

Street and No. .....

City and State .....

I am with The ..... **Company**

and my position is .....

[ ] If Independent Operator, check here

(BE SURE TO STATE COMPANY AND POSITION, otherwise it will be necessary for us to hold up entering your subscription until we can get this information from you.)

Squeaks from the Bull Wheel

▼ ▼ ▼

Bill Pigue, of THE OIL WEEKLY bunch, who gained considerable notoriety a year or two ago through a letter addressed to his milkman, complaining of the action of the milkman's horses, and who therefore feels that he is an authority on *everything* pertaining to horses, recently wrote Ham Fisher, creator of "Joe Palooka," chiding him on a picture drawn by Fisher showing a horse getting to his feet hindpart first.

Ham Fisher's reply is printed below:

In way of explanation, although Joe Palooka is down at Oilwell, Texas, for his big fight, Joe is not a subscriber to THE OIL WEEKLY*—not being* engaged *in the oil business. Joe is reading the copy of F. G. Will, production superintendent for the Shamrock Oil & Gas Co. at Pampa. Incidentally, Bill nominates Ham for the "Good Scouts" club.*

Poor old Wilkins had been terribly worried with business, and was in a very nervous state, so that any little sound seemed to annoy him. One night, when moving an easy chair, the castors creaked dreadfully.

"Jane," he cried to his wife, "didn't I ask you a week ago to oil these castors?"

"I know you did," shouted Mrs. Wilkins from the kitchen, "but I couldn't find a drop of castor oil in the house."

Spiritualistic lady has just called up her husband, who is dead.

Mary—John, dear, is that you?

John—Yes, my dear.

Mary—John, are you happy?

John—Yes, my dear.

Mary—John, dear, are you happier than you were on earth with me?

John—Yes, my dear.

Mary (sighing)—Heaven must be a wonderful place.

John—I'm not there, Mary.

"The American wounded were being brought in from the second Marne battle and a fussy American woman in a khaki uniform and Sam Browne belt knelt over a stretcher and asked, 'Is this case an officer, or only a man?'

"The brawny corporal who stood beside the stretcher gave her a grim laugh and said: 'Well, lady, he ain't no officer, but he's been hit twice in the innards, both legs busted; he's got two bullets in both arms, and we dropped him three times without his lettin' out a squeak, so I guess ye can call him a man.'"

The first man to reach the victim of a railroad grade crossing accident was a veterinarian. "I'm afraid I can't do much for you," the horse doctor said, "for I am a veterinary surgeon."

"Well, you're just the man I need, then," the mangled motorist said, "for I was a jackass trying to beat that train."

Tommy—That mouth organ you gave me for my birthday is easily the best present I've ever had, uncle.

Uncle—I'm glad to hear that.

Tommy—Yes, mother gives me 10 cents a week not to play it.

"Was the accused intoxicated when you saw him on the evening in question in the park?"

"Rather! He staggered after a glowworm and asked it for a light."

Old Lady: "I wouldn't cry like that, my little man."

Boy: "Cry as you damn please, this is my way."

"Did your wife accept you the first time you proposed?"

"No; I have only myself to blame!"

A man who entered a country post-office asked, "Have you a parcel for Mr. Jones?"

"I have," replied the postmaster, "but how do I know you're him?"

The man produced a photograph of himself. "Have a look at that," he said, "It's me, isn't it?"

"So it is," exclaimed the postmaster and handed over the parcel without another word.

"Dad, what is a boss?"

"A boss, my son, is a man who comes to the office too late when I am early and too early when I am late."

Moneylender: "Your name and address, please."

Flapper: "But I thought you lent money without making any inquiries."

Counsel: "Are you sure this is the man who stole your car?"

"I was until your cross-examination. Now I don't know if I ever possessed a car."

Gott WATER CANS & COOLERS
Pure... clear drinking water
When you have a GOTT Water Cooler handy, you will always be assured of a fresh supply of pure drinking water kept delightfully cool. Order one from your supply store . . . now!
Gott
WATER COOLER
GOTT Water Cans 1 gal. 3 gal. 5 gal. and 10 gal.
GOTT Water Coolers 3 gal. 5 gal. 8 gal. 10 gal. and 20 gal.
Gotkool
H. P. GOTT MFG. CO., Winfield, Kansas
KEEP PURE DRINKING WATER ALWAYS HANDY

▼ ▼ INDEX TO ADVERTISERS ▼ ▼

Alexandria Hotel .....
Amerada Corporation .....
American Association of Petroleum Geologists.
American Brake Materials Corporation .....
American Cable Company .....
The American Hammered Piston Ring Co.....
American Meter Company .....
American Sheet & Tin Plate Company .....
American Steel Wire Company 3
B. K. Appleman .....
Atlas Sales Corporation .....
Axelson Manufacturing Company .....

Baker Hotels 62
Baker Oil Tools, Incorporated 61
Baroid Sales Company .....
William M. Barrett, Inc. 66
The Bartlett Hayward Company .....
Beebe Brothers .....
Bettis Sales Company .....
Big Lake Oil Company .....
Black, Sivalls & Bryson .....
Bradford Motor Works 70
Bridgeport Machine Company 66
Broderick & Bascom Rope Company 6
The Brewster Company 34
Butler Manufacturing Company .....
A. M. Byers Company .....
Byron Jackson Company .....

Calmec Manufacturing Company .....
J. A. Campbell Company 67
Caterpillar Tractor Company 4
Champion & Barber, Inc. .....
Clark Brothers Company .....
Columbian Steel Tank Company .....
The Continental Supply Company .....
The Corbett Corporation 62

Darling Valve & Manufacturing Company .....
E. M. Dart Manufacturing Company .....
The Dayton Rubber Manufacturing Company..
De La Vergne Engine Company 65
Detroit-Leland Hotel .....
DeWitt Operated Hotels .....
Diamond Metal Company .....
S. R. Dresser Manufacturing Company .....

Elliott Core Drilling Company .....

Fort Worth Laboratories 66
Franklin Valveless Engine Company .....
Frick-Reid Supply Corporation .....

Gaso Pump & Burner Manufacturing Company
General Electric Company 31
H. P. Gott Manufacturing Company 73
The Guiberson Corporation .....
Gulf Coast Machine & Supply Company .....
Gulf Publishing Company .....
Gulf Refining Company 58
Gulf States Utilities Company 20
Gulf Tractor & Equipment Company .....

Halliburton Oil Well Cementing Company ....
Hardway & Cathey 66
Harrisburg Pipe & Pipe Bending Company....
Haynes Stellite Company .....
Hazard Wire Rope Company 33
C. M. Heeter Sons & Company .....
Hirsch, Brown & Susman 66
The Charles N. Hough Manufacturing Co. ...
Hughes Tool Company .....Front Cover
Humble Oil & Refining Company 28

Houston Ready-Cut House Company .....
Hyatt Roller Bearing Company .....

International-Stacey Corporation .....
International Harvester Company .....
The International Nickel Company .....

Byron Jackson Company .....
Jarecki Manufacturing Company .....
Jensen Brothers Manufacturing Company .....
Jones & Laughlin Steel Corporation .....

Kerotest Manufacturing Company .....
Kibele Manufacturing Company .....

Larkin Packer Company .....
Lowell Wrench Company .....
Ludlow Valve Manufacturing Company .....
Lufkin Foundry & Machine Company .....

MacClatchie Manufacturing Company .....
Martin-Decker Corporation .....
J. H. McEvoy & Company 71
Maloney Tank Manufacturing
Company .....Third Cover
Merchant-Thayer & Company 66
Metric Metal Works .....
Lee C. Moore & Company .....
Multibestos Company .....

The National Supply Company .....
National Tube Company .....
Norvell-Wilder Supply Company .....

Oil Center Tool Company .....
Oil Well Supply Company 19

The Parkersburg Rig & Reel Company .....
Hotel Pennsylvania 66
Petroleum Equipment Company .....
Petroleum Rectifying Company 17
Piccadilly Hotel .....
Pittsburgh Steel Products Company..Fourth Cover
Price & Trawick, Inc. .....

Reading Iron Company .....
Reed Roller Bit Company 22-23
Regan Forge & Engineering Company .....
Republic Steel Corporation 25
Rollway Bearing Company .....

Howard Smith Company .....
Snetcher & Pittman .....
South Chester Tube Company .....
Spang Chalfant & Company .....
Spartan Steel Company 66
Sperry-Sun Well Surveying Company .....
Jesse R. Stone and Lester B. Clark 66

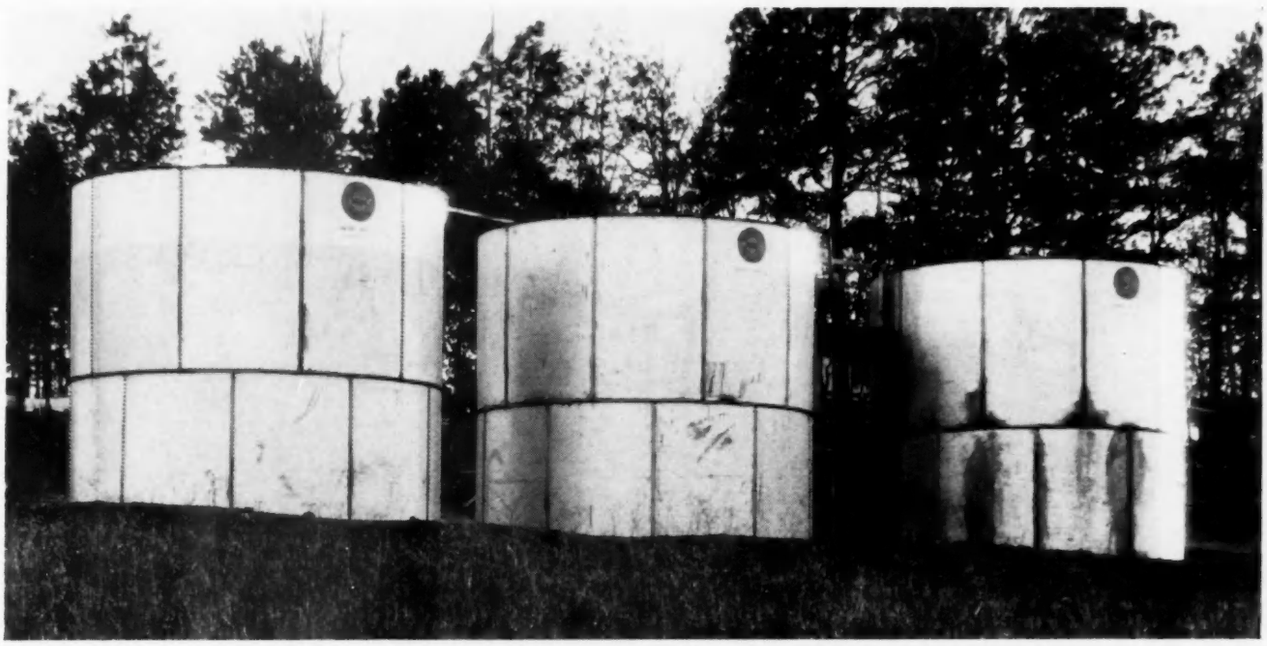
Texas Electric Service Company .....
Thermoid Rubber Company .....Second Cover
The Timken Roller Bearing Company .....
E. A. Tompkins Company .....
Tretolite Company .....
Trimont Manufacturing Company .....

Union Wire Rope Corporation .....

Waukesha Motor Company .....
Wheeling Steel Corporation .....
Wickwire-Spencer Steel Company 27
J. H. Williams & Co. .....
Williamsport Wire Rope Company .....
Wilson Supply Company .....

Youngstown Sheet & Tube Company .....

Every precaution has been taken to insure accuracy in listings in this Index to Advertisers, but last minute changes may result in omissions or erroneous liistings for which we ask your indulgence. This index is for the convenience of readers and we do not assume liability for improper listings.



Three 500-Bbl. Maloneys used by Jackson, Wise and Snedden at Overton, Texas. Erected by Maloney Sales Co., Distributers.

Built to INCREASE your *Income* and to REDUCE your *Expenses*

Maloney VAPOR-PRESSURE Tanks are so designed and constructed that they (1) eliminate the waste of breathing losses and thus enable you to sell more and better oil, and (2) they are so remarkably durable that your tank replacement costs are greatly reduced.

Our *Vapor-Pressure* Tanks are built of not less than 12-gauge Keystone Copper Steel—a highly rust-resistant material. They are strongly tied and reinforced with heavy 2″ angles, with wide gussets on ties and ladders. They are equipped with the best combination valves, set at 16 ounces pressure and ½-ounce vacuum. We use an unusually long-lived aluminum paint, made with a special spar vehicle containing water-proof and alkali-proof Inhiburine.

"Alone in Quality"

MADE OF KEYSTONE COPPER STEEL AMERICAN

MALONEY TANK MFG. COMPANY
38 N. Peoria Ave., Tulsa, Oklahoma
Distributers at All Principal Petroleum Points
Packed in Steel-Bound Crates for Export

. . . for certainty of **LONG SERVICE**

Pittsburgh Seamless

DRILL PIPE

CASING • OIL WELL TUBING

Prompt deliveries from complete stocks
at Memphis Storage Yard

PITTSBURGH STEEL PRODUCTS CO.

Pittsburgh · New York · Detroit · Tulsa · Chicago · St. Louis · Houston

DIVISION OF Pittsburgh Steel Co